

ANN ARBOR
MOVING
TOGETHER

TOWARDS VISION ZERO



City of Ann Arbor Comprehensive Transportation Plan

JUNE 2021



RESOLUTION

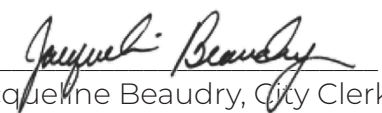
The Ann Arbor Moving Together Towards Vision Zero - City of Ann Arbor Comprehensive Transportation Plan contained herein was adopted by Resolution R-21-211 by the Ann Arbor City Council on June 7, 2021.

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The Ann Arbor Moving Together Towards Vision Zero - City of Ann Arbor Comprehensive Transportation Plan contained herein was adopted by the Ann Arbor City Planning Commission on April 20, 2021.

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Executive Summary

Ann Arbor’s streets and transportation system are crucial to our city’s day-to-day functioning as well its long-term success. Ensuring that our transportation system runs efficiently today and supports the outcomes we desire in the future requires a long-term plan.

Ann Arbor: Moving Together builds on the city’s success over the past decade in creating a safer, more sustainable, accessible, and equitable transportation system for everyone. By bringing together diverse perspectives from across the city and the wider region, this plan defines the city’s mobility values and goals and details our strategy for managing, operating, upgrading, and maintaining our transportation system today and into the future.

Mobility Goals and Values

Thousands of residents, city staff, community groups, advocates, and partner agencies helped identify Ann Arbor’s five mobility values. These mobility values are the foundation for the ideas, actions, projects, and policies described in this plan and will guide the city’s transportation decision making and investments over the next 20 years.

- 

Safety

Ann Arbor is a safe city where everyone participates in creating an environment in which people feel confident and comfortable traveling.
- 

Mobility

Ann Arbor prioritizes moving people and goods efficiently; making it easier for people to choose sustainable modes of transportation.
- 

Accessibility for All

In Ann Arbor, people of all abilities, ages and stages of life, income, races, cultures and ethnicities have equitable access to the places where they live, work, and play.
- 

Healthy People & Sustainable Places

Ann Arbor’s transportation system supports a healthy population, sustainable environment, and robust economy, while celebrating and enhancing a unique quality of place.
- 

Regional Connectivity

Ann Arbor works to expand travel options throughout the region and integrate its transportation system with wider regional networks.

These values will help guide the city’s actions as we progress towards two key critical goals for the City of Ann Arbor:

Vision Zero: No one dies or is seriously injured in crashes on Ann Arbor’s streets.

By 2025, we have all worked together to eliminate fatalities and serious injuries resulting from traffic crashes.

Carbon neutrality: Our transportation system contributes zero emissions towards climate change.

By 2030, we have transitioned to a carbon-neutral transportation system.

Key Mobility Strategies

To achieve these goals, *Ann Arbor: Moving Together* details 22 key strategies we will pursue over the coming years to address our mobility challenges in a sustained, systemic way. We must act at many different scales, focusing on a single intersection or corridor at times while also considering citywide and regional actions. We must upgrade our infrastructure, test new street designs, and craft new policies and programs.

1. Focus transportation investments on corridors and intersections with the most serious crashes.
2. Address dangerous behaviors using design solutions, policy changes, and education efforts.
3. Establish a quick-build improvement program.
4. Address critical gaps in the sidewalk system.
5. Enhance safety and visibility at uncontrolled crosswalks.
6. Build out a safe, comfortable network of bike routes for people of all ages and abilities.
7. Make intersections safer and easier to navigate for biking.
8. Update and complete the American with Disabilities Act (ADA) transition plan.
9. Partner with mobility service providers to expand shared mobility options in Ann Arbor.
10. Continue increasing transit service to improve frequency and consistency.
11. Prioritize transit reliability and speed along signature service corridors and at key locations.



- 12. Improve multimodal access to transit stops.
- 13. Expand commuter-oriented transit services.
- 14. Provide reduced fares for transit and shared mobility services for qualified users.
- 15. Price trips according to their impact on the City.
- 16. Develop a citywide transportation demand management (TDM) strategy.
- 17. Implement new policies to better align parking supply and demand.
- 18. Ensure that all residents have access to basic daily needs within a 20-minute walk.
- 19. Create shared streets in strategic areas downtown.
- 20. Proactively engage with underrepresented voices around transportation issues and projects.
- 21. Expand adaptive signal technology and implement connected infrastructure.
- 22. Monitor advances in connected and automated vehicle technology and evaluate impacts on safety and street design.

Ann Arbor: Moving Together includes information on how the plan’s recommendations can become reality, including funding sources and estimated capital investment levels. The plan also creates a framework, including performance measures and evaluation procedures, for regularly reporting on our progress to ensure transparency and ensure the actions we are taking are leading to our desired outcomes.

Mobility Performance Measures

Safety

- » Annual number of people killed or seriously injured in traffic crashes
- » Share of serious injuries and fatalities incurred by people walking and biking
- » Share of serious injury and fatality crashes related to dangerous driving behaviors
- » Number of safety improvements installed on focus corridors and intersections per year

Mobility

- » Population within a ¼ mile of the all ages and abilities bicycle network
- » Population within a ¼ mile of high-frequency transit (every 15 minutes)
- » Share of trips in the city made by walking, biking, and transit
- » Shared mobility vehicles available (car share, bike share, e-scooters)

Accessibility for All

- » Transportation costs as a percent of household income
- » Average number of jobs within 20 minutes via different modes
- » Share of bus stops that are ADA accessible
- » Miles of gaps in the sidewalk network

Healthy People & Sustainable Places

- » Average vehicle miles traveled (VMT) per day
- » Share of the population living in 20-minute neighborhoods
- » Share of the population meeting physical activity guidelines

Regional Connectivity

- » Share of commute trips into/out of Ann Arbor on transit
- » Number of go!pass (or equivalent citywide program) holders



Capital Projects

Delivering on Ann Arbor’s mobility goals will require significant investments. The strategies throughout this plan detail infrastructure improvements—from new sidewalks and smart traffic signals to well-lit crosswalks and better bus stops—that are needed to create streets that are safe and work well for everyone in Ann Arbor.

By overlaying infrastructure improvements included in the plan’s strategies, locations where priorities overlap and conditions can be improved for people using all modes were identified (see map on the opposite page). The highest priority locations represent corridors where many needs can be addressed simultaneously. These capital investments are in addition to the city’s ongoing programmatic spending and operations and maintenance needs.

Tier 1 Capital Projects

Total Project Length: 18 miles

Projects include corridors with a safety focus (Strategy 1) and near-term sidewalk gaps (Strategy 4).

Tier 2 Capital Projects

Total Project Length: 24 miles

Projects include additional corridors with a safety focus and address multi-modal needs.

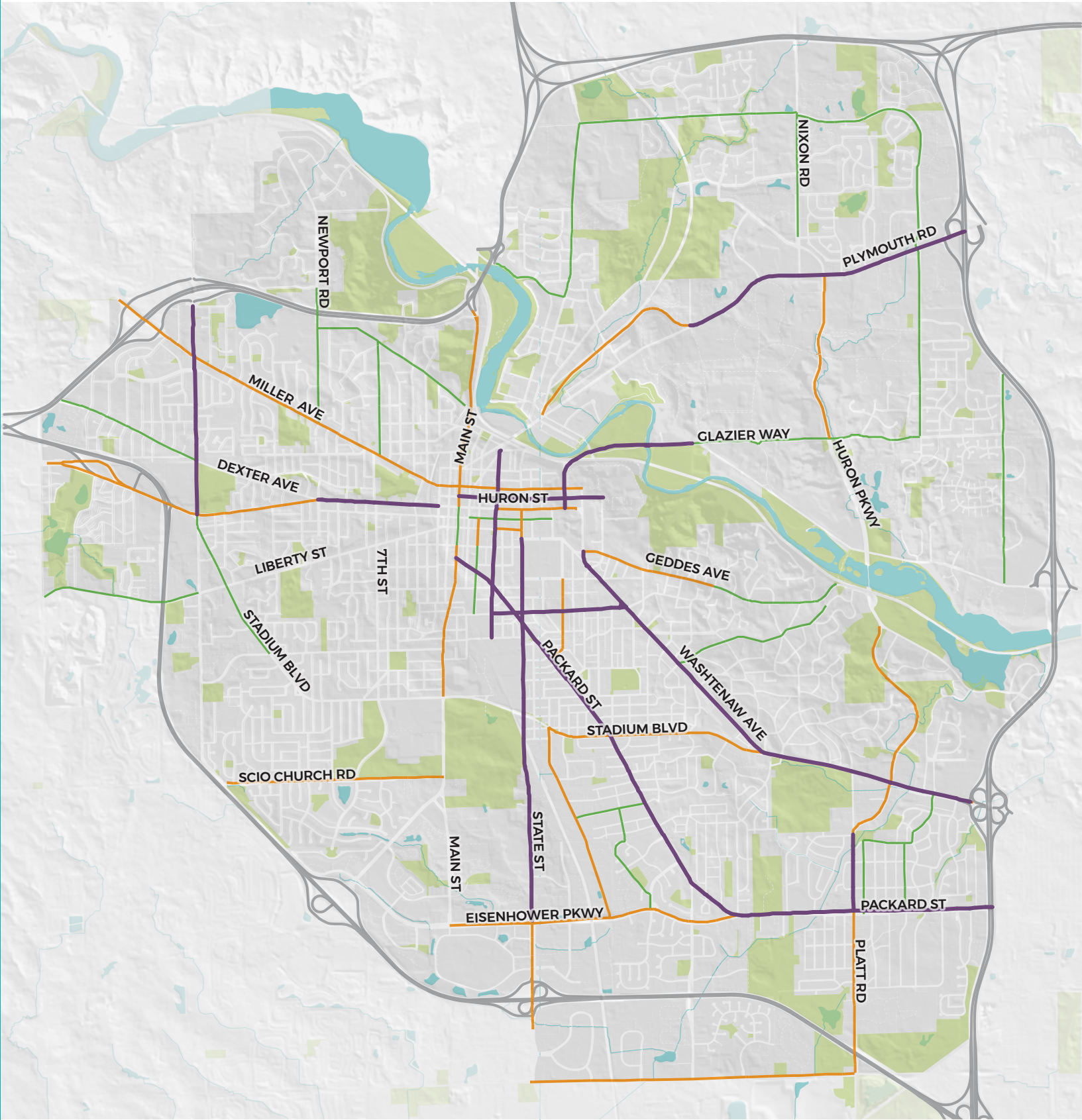
Tier 3 Capital Projects

Total Project Length: 20 miles

Projects include corridors that address multiple modal needs.

Capital Projects

- Tier 1 Capital Projects
- Tier 2 Capital Projects
- Tier 3 Capital Projects



Introduction

Ann Arbor's streets and transportation system are vital to the city's daily functions; connecting us to opportunities, services, and to one another. Transportation is an essential element of Ann Arbor's long-term success, helping shape where and how we grow; attracting talent and investment; keeping our economy moving; and impacting our health, environment, and quality of life. Ensuring that our transportation system runs efficiently today and supports the outcomes we desire in the future requires a long-term plan.

A comprehensive transportation plan sets out what the city wants to achieve related to its transportation system and how it intends to achieve it. *Ann Arbor: Moving Together* serves as an update to and replacement of previous comprehensive transportation plans completed in 2009 and 1990 and the 2007 Non-Motorized Plan and is a component of the City Master Plan.

By bringing together diverse perspectives from across the city and the wider region, this plan defines the city's mobility values and details our strategy for managing, operating, upgrading, and maintaining our transportation system today and into the future.

Ann Arbor: Moving Together builds a common understanding of the opportunities and challenges we face in Ann Arbor, so that we can allocate our resources where they will deliver the most benefit to us all. The plan details a set of strategies, which include individual projects, programs, and policies, and additional actions we will take over the coming years to address our mobility challenges in a sustained, systemic way. It also includes detailed information on how the plan's recommendations can become reality and a framework for regularly reporting on our progress to ensure transparency and accountability.



The plan in context

Ann Arbor: Moving Together builds a common understanding of the opportunities and challenges we face in Ann Arbor, so that we can allocate our resources where they will deliver the most benefit to us all.

The plan details a set of strategies, which include individual projects, programs, and policies, and additional actions we will take over the coming years to address our mobility challenges in a sustained, systemic way.

1

INTRODUCTION



Foundational Policies & Past Work

Ann Arbor has a strong foundation to build upon as we work together to create our future transportation system. Three policies in particular acted as guideposts throughout the process for *Ann Arbor: Moving Together*.

- 1. Complete Streets Resolution
- 2. Vision Zero
- 3. Carbon Neutrality

Complete Streets Resolution (2011)

Ann Arbor’s Complete Streets Resolution emphasizes that the City’s transportation systems “are provided to support mobility for all, regardless of age or abilities, to safely and conveniently travel throughout the city” and that the city must plan, engineer, construct, operate, and maintain its streets in accordance with this imperative. The policy also establishes that 5% of the transportation funding Ann Arbor receives from the state be dedicated towards walking and biking improvements.

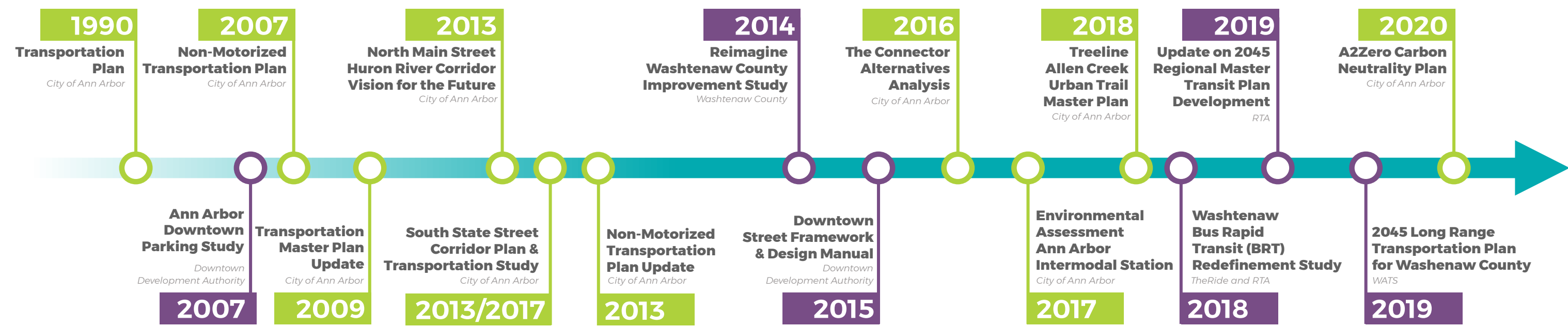
Vision Zero (2015)

Following the City’s Pedestrian Safety and Access Task Force report in 2015, Ann Arbor City Council made it an official city goal to have zero traffic-related fatalities on city streets by 2025. An additional resolution in 2017 reaffirmed the city’s commitment to eliminating traffic fatalities and serious injuries by reducing vehicle speeds and minimizing the consequences of human errors.

Carbon Neutrality (2020)

After City Council declared a climate emergency in 2019, Ann Arbor began developing a plan to achieve community-wide carbon neutrality by 2030. The A2Zero Carbon Neutrality Plan was adopted by City Council in 2020 and centers around six core strategies, including reducing the miles we travel in our vehicles by 50%.

In addition to these three foundational policies, *Ann Arbor: Moving Together* builds off many successful planning efforts the city and its partners have completed in previous years.



What is Vision Zero?



Vision Zero is both the commitment and the approach to eliminating death and serious injury from traffic crashes. Vision Zero puts forward a new vision for safety that differs significantly from traditional approaches and recognizes that:

Safe mobility is a basic right.

Everyone has the right to walk, bike, take public transit, and drive on streets that are safe for everyone, regardless of who they are or where they live.

Traffic crashes are preventable.

By changing how we design, use, and view our streets, we can make them safer for everyone.

Humans make mistakes.

Our streets and policies should be designed so that when people make inevitable mistakes while driving, they don't result in injury or death.

Safety is a shared responsibility.

Vision Zero requires action on many levels, and a diverse partnership of community members, city staff, and stakeholders are necessary to carry out those actions and hold each other accountable.

How was this plan developed?

Ann Arbor: Moving Together builds on the city's success over the past decade in creating a safer more sustainable, accessible, and equitable transportation system for everyone. By analyzing a variety of transportation-related data, studying successful practices from cities around the world, collaborating with a broad range of stakeholders and community groups, and engaging directly with residents, workers, and visitors, Ann Arbor has created a plan that is rooted in the community's values and will guide the evolution of its streets and transportation system for the next 20 years.

A Technical Advisory Committee and Community Advisory Committee provided invaluable guidance and direction through the *Ann Arbor: Moving Together* process.

» The Technical Advisory Committee (TAC) consisted of staff from city of Ann Arbor units/service areas and relevant transportation agencies, representing a broad spectrum of responsibilities, governance, and interests related to the city's long-range transportation planning. The TAC provided technical consultation and feedback from subject-matter experts on the plan development and served in an advisory capacity during decision-making milestones throughout the planning process.

- » The Community Advisory Committee (CAC) consisted of individuals with a broad spectrum of interests related to the city's efforts to update the comprehensive transportation plan. The CAC provided feedback, from a community perspective, on the plan development, including its scope, content, direction and recommendations. They also provided guidance on the best approaches for engaging stakeholder groups and the broader public over the course of the project.
- » Beginning in early 2019, the planning process for *Ann Arbor: Moving Together* occurred across three overarching phases.

Discovery Phase

Goal: Learn about opportunities and challenges around transportation in Ann Arbor using a variety of community engagement tactics and innovative data analysis. Identify a set of mobility values to guide decision making.

Community Engagement:

- » Facilitated four focus groups (30 total participants) to ask participants in-depth questions about their comfort level traveling around Ann Arbor, mobility challenges, ideas for the future, and how the city of Ann



Arbor could shape the next transportation plan. Participants were recruited via a short survey that was promoted through the city’s social media channels, emails to residential groups, and emails to project stakeholders. Two sessions were held with the general population, one with seniors, and one with ethnic minorities.

- » Conducted a transportation behavior survey online (1,756 responses) and via in-person intercept surveys at the Blake Transit Center and Central Campus Transit Center (58 responses).
- » Organized one public open house and two pop-up events (81 total people participants). Feedback activities at these events included polling on potential mobility values, ranking examples of great streets across North America, a community mapping activity on opportunities and challenges, and photos of residents’ big ideas for transportation in Ann Arbor.
- » Launched an online survey on biking preferences (1,052 responses).
- » Presented on Vision Zero and progress from the planning process and community engagement findings at two Transportation Commission meetings.

Ideation Phase

Goal: Develop ideas for projects, policies, and programs to achieve the plan’s goals in collaboration with stakeholders and the community.

Community Engagement:

- » Organized one public open house (46 participants). Attendees provided feedback on how they would prioritize walking, biking, transit, and motor vehicles on five key corridors (Washtenaw Avenue, Plymouth Road, Miller Avenue., Main Street, and Fuller Road) and a mapping activity to identify potential new biking routes.
- » Developed an online survey to prioritize modes of transportation on five key corridors (583 responses) which mirrored the open house activity described above.
- » Designed an online survey on pedestrian crossings (954 responses and 3,325 entries on the interactive map). The survey sought to understand how comfortable people feel using mid-block crosswalks, as a pedestrian and as a driver, and identify where additional crosswalks should be marked. Respondents identified new crosswalk requests and existing crosswalks in need of upgrades.

- » Gathered feedback via an online mapping activity for an all ages and abilities bike network (3,505 entries on the interactive map). Respondents identified missing routes, barriers for people biking, and which routes they would use the most.
- » Presented on plan progress at two Transportation Commission meetings.

Action Plan Phase

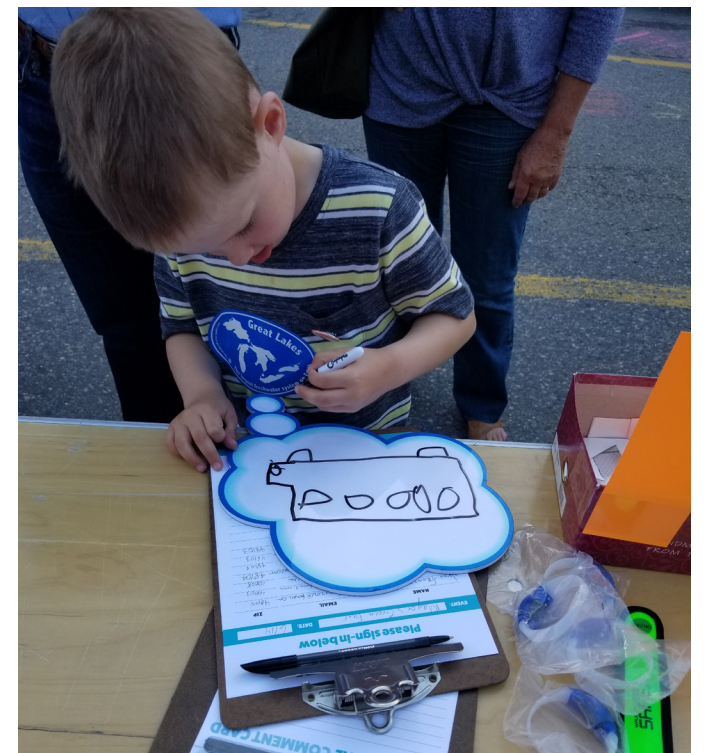
Goal: Organize recommendations into a set of key strategies and prioritize actions into short (0-3 years), medium (4-10 years), and long (more than 10 years) time horizons with stakeholders and community groups. Determine the costs and assess the benefits of the recommendations and identify pathways for implementation.

Community Engagement

- » Gathered feedback on strategy priority and timeline from Transportation Commission members.
- » Virtual open house via Zoom webinar with interactive polling questions and question and answer sessions.



Attendees participate in the first public Open House



A young attendee shares an idea at a Pop Up event



Mobility in Ann Arbor: Today

Over the last decade, Ann Arbor has made significant investments in its streets and transportation system: constructing new sidewalks and mid-block crossings for pedestrians; building bike lanes, paths, and trails; expanding and increasing transit service; modernizing traffic signals, and welcoming new ways of getting around, like shared bikes and electric scooters, to the city.

What have these investments yielded?

Transit ridership has reached record levels.

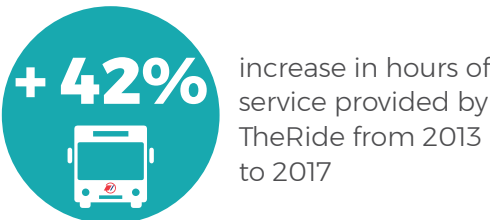
More people are walking and biking.

Emissions from transportation are falling.

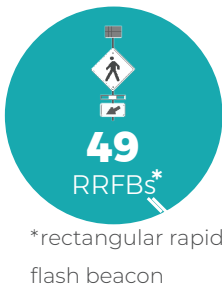
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Mobility in Ann Arbor: Today

Our Investments

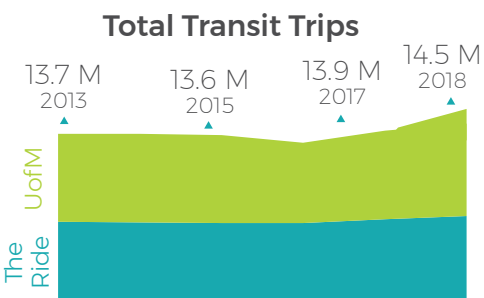


Since 2007, the city has installed...

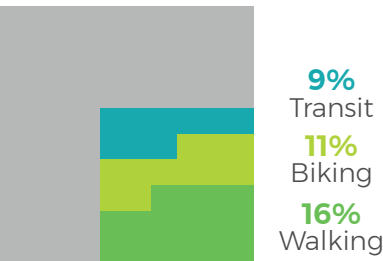


The Results

14.5 million combined bus ridership (TheRide + University of Michigan) in 2018 (National Transit Database)



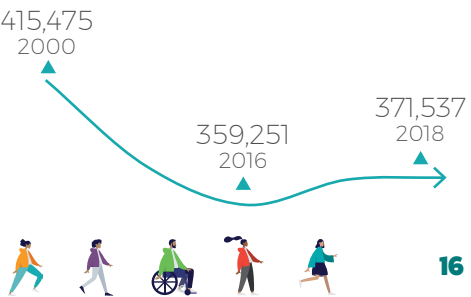
Trips within Ann Arbor



36% of all trips within the city made by walking, biking or transit (2019 Transportation Habits Survey)

Transportation Emissions (MTCO2e)

-13% decrease in emissions from transportation since 2000 (City of Ann Arbor data)



Our collective actions are yielding progress, but we still face urgent challenges.

Creating safer streets.

Ann Arbor has one of the lowest rates of deaths and serious injuries from traffic crashes among cities in Michigan, but even one life lost in a crash is unacceptable. From 2009 to 2018, 23 people were killed in traffic crashes in Ann Arbor and 276 people suffered life-altering injuries. People walking and biking in Ann Arbor are disproportionately affected by traffic crashes; over the last five years, the majority of people killed in traffic crashes were walking or biking. Most crashes occur on streets with higher relative speed limits, despite these streets being a small portion of the overall network. (Note: In-depth data analysis throughout the plan relies on crash data from 2014 through 2018, spanning the most recent 5 years' of data available, as consistent with industry best practices.)

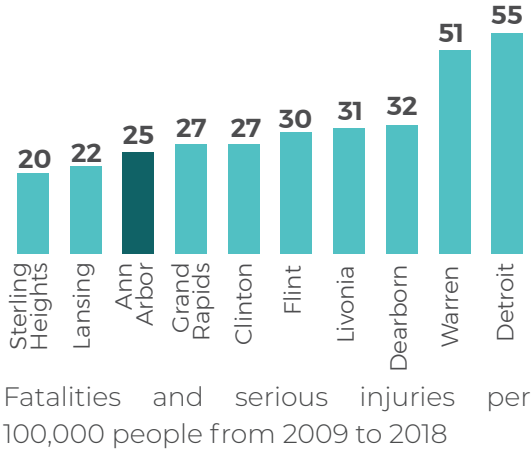
Tackling the climate emergency.

Emissions from transportation (including private vehicles, trucks, buses, and motorcycles) in Ann Arbor have fallen, but transportation within the city still accounts for nearly one-fifth (18%) of the city's emissions. With continued job and population growth, emissions from transportation are projected to increase over the coming years without further action.

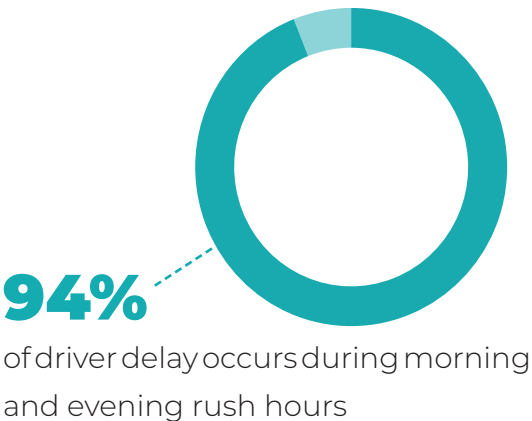
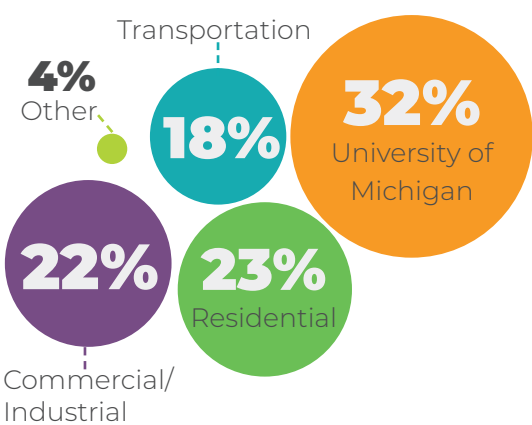
Managing the demand on our streets.

Ann Arbor is a regional job center. One out of every 43 people in Michigan work in Ann Arbor, and more than 83,000 people work at organizations within the city. This influx of workers places major strains on the city's and region's transportation systems during rush hour. As a result, 94% of all the delay drivers experience in Ann Arbor occurs between 7-9 a.m. and 3-6 p.m.

Crash Rates in Michigan's Cities



Carbon Emissions in Ann Arbor

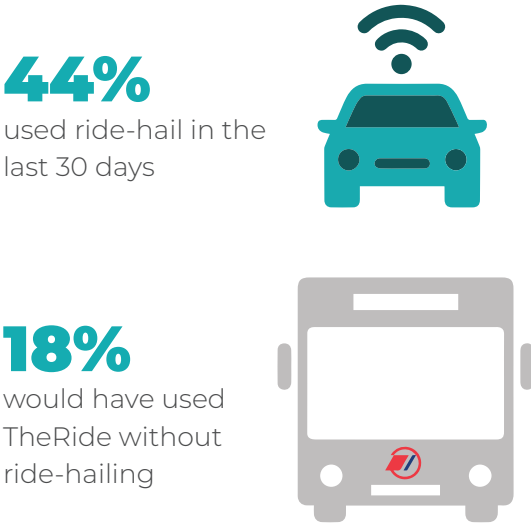
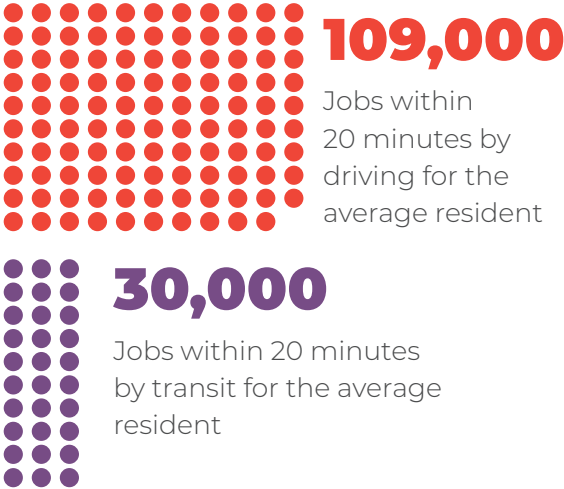


Equitably connecting people to opportunities.

The ability to access employment opportunities via reliable, affordable transportation is a crucial ingredient in enabling social mobility. Today, people living in Ann Arbor who drive have superior access to jobs compared to the 12% of households that don't have access to a vehicle and those that rely on other modes of transportation. The average resident can reach 109,000 jobs in the city within a 20-minute drive, while the average transit user has access to 72% fewer jobs (30,000) within 20 minutes.

Putting new technologies in service of our goals.

The previous decade saw the arrival and rapid adoption of new services like ride-hailing (such as Uber/Lyft), bike share, and shared electric scooters (e-scooters). There will undoubtedly be more new arrivals on our streets in the next two decades, whether they are autonomous vehicles, delivery robots, or something unforeseen. The University of Michigan and private companies in Ann Arbor are leading the way on many of these innovations. The city is committed to fostering a climate that encourages innovation while also ensuring that new technologies deployed on our streets align with our values and help improve safety, reduce emissions, and expand access for all of our citizens.





Bold Vision

Ann Arbor: Moving Together sets out a path to address our mobility challenges head-on and achieve two critical goals for the city of Ann Arbor: Vision Zero and carbon neutrality.

3

**Ann Arbor's
Mobility Goals & Values**

Mobility Goals & Values

1. Vision Zero: No one dies or is seriously injured in crashes on Ann Arbor's streets.

By 2025, we have all worked together to eliminate fatalities and serious injuries resulting from traffic crashes.

2. Carbon Neutrality: Our transportation system contributes zero emissions towards climate change.

By 2030, we have transitioned to a carbon-neutral transportation system.

We are committed to achieving these goals while adhering to the community's values and prioritizing equitable outcomes.

MOVING TOGETHER TOWARDS...

ZERO DEATHS

AND

ZERO EMISSIONS



Ann Arbor's Mobility Values

Thousands of residents, city staff, community groups, advocates, and partner agencies helped identify Ann Arbor's five mobility values. These mobility values are the foundation for the ideas, actions, projects, and policies described in this plan and will guide the city's transportation decision making and investments over the next 20 years.

The strategies laid out in this plan reflect one or more of these values, with many addressing several values at once.

1 Safety

Ann Arbor is a safe city where everyone participates in creating an environment in which people feel confident and comfortable traveling.



2 Mobility

Ann Arbor prioritizes moving people and goods efficiently; making it easier for people to choose sustainable modes of transportation.



3 Accessibility for All

In Ann Arbor, people of all abilities, ages and stages of life, income, races, cultures and ethnicities have equitable access to the places where they live, work, and play.



4 Healthy People & Sustainable Places

Ann Arbor's transportation system supports a healthy population, sustainable environment, and robust economy, while celebrating and enhancing a unique quality of place.



5 Regional Connectivity

Ann Arbor works to expand travel options throughout the region and integrate its transportation system with wider regional networks.



Planning in a pandemic

The COVID-19 pandemic imposed a public health crisis on the city and the country in a way that is unprecedented in our lifetimes. The onset of the crisis upended our daily lives and routines, drastically changing how we get around in the short-term, among other disruptions. While the pandemic will eventually recede and activity levels will increase, the long-term impacts of these disruptions are unknown.

However...

We do know the values that the Ann Arbor community holds dear and the overarching goals of this plan continue to set the long-term vision for mobility in Ann Arbor. The strategies set forth in this long-range transportation plan update will guide the city through the pandemic recovery towards a transportation system that is more adaptable, inclusive, and resilient.

Impacts on mobility and travel patterns

The pandemic and associated restrictions on travel, business operations, and gatherings, has impacted who travels and how they get around. Nationwide trends show:

-  Traffic volumes plummeted, but have since rebounded to near normal levels.
-  Use of ride-hailing services, such as Uber and Lyft, dropped and has stayed down.
-  Transit ridership fell drastically and has only partially rebounded.
-  Freight and truck volumes fell slightly and have since risen above pre-COVID levels.
-  Shared mobility services (bikeshare, e-scooter share) have experienced inconsistent results in different cities.

Transit impacts in Ann Arbor

Throughout the pandemic, people have been encouraged to take the bus only for essential trips, in order to reduce the number of passengers on each bus and allow them to physically distance themselves from other riders.

Ann Arbor’s COVID Response

TheRide

Throughout the pandemic, the AAATA has been adaptive, responding to the changing nature of the public health crisis. TheRide has taken several measures to protect the health and safety of its customers and staff, while maintaining the critical service that they provide to essential workers who still need to travel, even through the most stringent of the statewide lockdown requirements.

Timeline of select actions

March - May 2020:

- » Free Fares
- » Transit Center closures
- » Reduced service
- » Measures to promote social distancing and masks

June - August 2020:

- » Temporary shuttle service
- » Service expansion on select routes
- » Fare collection resume

September - October 2020:

- » Contactless fare app, EZFare launched

Healthy Streets

In May 2020, Ann Arbor City Council passed a resolution enabling the city to implement roadway and lane reconfigurations on a temporary basis to provide adequate space for social distancing.

Signs and barricades marked slow streets and shared spaces on neighborhood streets while more intensive reconfigurations were implemented on some downtown streets. All reconfigurations were in support of the city’s broader goals of Vision Zero and carbon neutrality.

Downtown reconfigurations are being evaluated for:

- » Traffic volume
- » Traffic speeds
- » Bicycle counts
- » Traffic flow
- » Crash reports
- » Field observations



Iroquois Pl and Packard St



4

Moving Together

Achieving Ann Arbor's bold vision will require a multi-disciplinary commitment and a systematic approach to creating safer and more equitable streets.

More than 70 complementary strategies are presented that, when taken together, will set Ann Arbor on a course to zero deaths and zero emissions.

Ann Arbor's Mobility Strategies

Mobility Strategies

Creating a transportation system that is safe and accessible for everyone; offers a variety of affordable options for getting around; and helps achieve Ann Arbor's carbon neutrality goals requires bold action. We must act at many different scales, focusing on a single intersection or corridor at times while also considering citywide and regional actions. We must upgrade our infrastructure, test new street designs, and craft new policies and programs.

The mobility strategies detailed in the following pages organize the many discrete actions Ann Arbor must take to advance its mobility values in the coming years. The strategies were designed to address the needs of different constituents:

people who live in the city and those who work in or visit Ann Arbor; people who rely on different modes of transportation and have different abilities and needs; children, older adults, and everyone in between.

The strategies demonstrate:

- » the community's **values**;
- » **multi-disciplinary** approach (engineering, education, encouragement, equity, enforcement, evaluation);
- » cross-agency and cross-departmental **collaboration**;
- » a **time-based** action strategy; and
- » **accountability**.

How this plan addresses equity in Ann Arbor

Reversing inequities in transportation investments and policies is an important component of a comprehensive Vision Zero strategy and an important objective in the community of Ann Arbor.

Equitable practices are woven throughout these strategies, including investments in infrastructure as well as programmatic initiatives that expand mobility choices and reduce the economic burden of transportation. To assist in making

strategic investments to reverse inequities, a geographic equity analysis is included in the Mobility Fact Book.

The City of Ann Arbor also recognizes that equitable transportation is not confined to the city's boundaries and will work closely with Washtenaw County and surrounding communities on the strategies included in this plan as well as regional priorities that align with addressing equity and the city's goals.



1. High Crash Locations

Focus transportation investments on corridors and intersections with the most serious crashes.

Current State

From 2014 to 2018, the vast majority (77%) of fatalities and serious injuries from traffic crashes were concentrated on a select set of 30 corridors.¹ These corridors, referred to throughout the document as focus corridors, include many of the city’s major streets, where there is often more traffic traveling at higher speeds. A subset of seven corridors, referred to as Tier 1 focus corridors, accounted for more than a third (37%) of all traffic deaths and serious injuries. Additionally, one out of eight fatalities and serious injuries occurred at just 17 intersections located along the focus corridors. These focus intersections have also been divided into two tiers (see map on the following pages).

Strategy Description

To achieve Vision Zero by 2025, Ann Arbor must re-design streets and intersections to reduce crashes and ensure that when people make mistakes and crashes happen, those crashes do not result in death and injury. This will entail providing greater protection to people walking and biking and implementing new tools to address specific dangerous



Safety

driving behaviors. Concept designs for several focus corridors and intersections can be viewed in Section 5 and in the Appendix.

Making changes to the focus corridors and intersections can be achieved through several different approaches, including:

- » **Developing new capital improvement projects**, including small to large-scale roadway projects, multi-modal infrastructure investments, or traffic signal modernization.
- » **Coordinating safety improvements** with other planned projects and construction work (e.g., planned construction/resurfacing on Ann Street, Platt Road, Washtenaw Avenue, Miller Avenue, Main Street, and Plymouth Road).
- » **Advancing ongoing corridor studies** that address safety issues (e.g., South State Street Corridor Plan, North Main Huron River Corridor Project, Reimagine Washtenaw, Lower Town Area Mobility Study).
- » **Using the quick-build safety program** to quickly implement changes while long-term improvements are being planned (see Strategy 3).



Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » **Engineering**
- » Systems Planning
- » Public Works
- » Downtown Development Authority (DDA)
- » Michigan Department of Transportation (MDOT)
- » University of Michigan
- » Ann Arbor Area Transportation Authority (AAATA)

Targets

1. Develop plans for safety improvements on all Tier 1 corridors and intersections within **2 years**.
2. Identify implementation and funding strategy for all Tier 1 corridors and intersections within **3 years**.
3. Develop plans for safety improvements on all Tier 2 corridors and intersections within **3 years**.
4. Identify implementation strategy for all Tier 2 corridors and intersections within **5 years**.
5. Make improvements on 3 safety focus corridors and/or intersections **each year**.



High Crash Locations

Focus Corridors

77% of all fatalities & severe injuries

37% on 7 Tier 1 Corridors

40% on 23 Tier 2 Corridors

Focus Intersections

12% of all fatalities & severe injuries

7% on 11 Tier 1 intersections

5% on 6 Tier 2 intersections

Tier 1 Focus Corridors

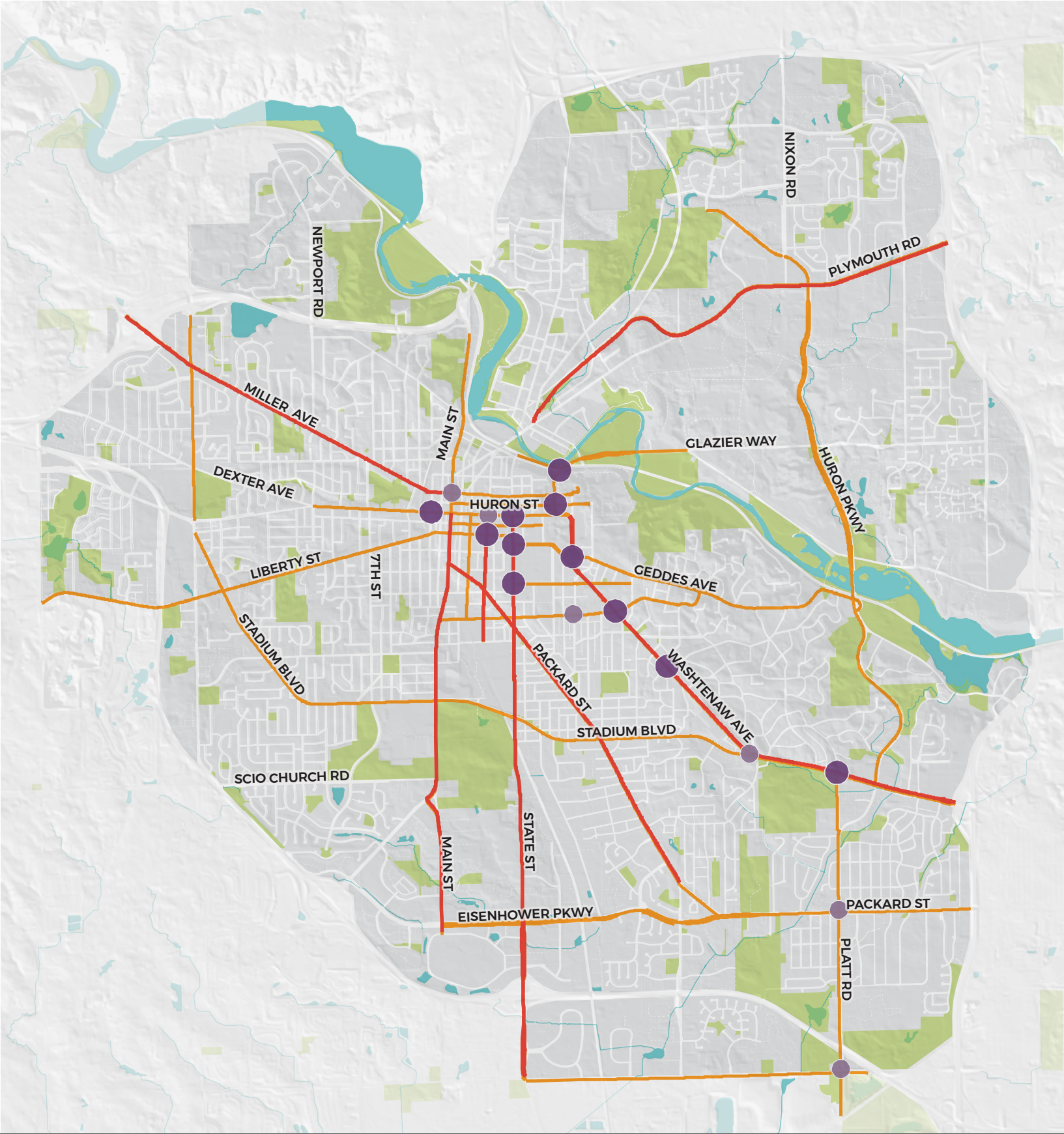
- 1. Plymouth Road (Murfin Avenue to US-23)
- 2. Miller Avenue (Downtown to M-14)
- 3. Washtenaw Avenue (Huron Street to US-23)
- 4. S Main Street (Huron Street to Eisenhower Parkway)
- 5. S State Street (Huron Street to Ellsworth Road)
- 6. Packard Street (Main Street to Stone School Road)
- 7. Division Street (Liberty Street to Hoover Street)

Tier 1 Focus Intersections

- 1. Washtenaw Avenue and Platt Street
- 2. Washtenaw Avenue and Devonshire Street
- 3. Washtenaw Avenue and Hill Street
- 4. Washtenaw Avenue and Geddes Avenue
- 5. State Street and Huron Street
- 6. S State Street and N University Avenue
- 7. S State Street and S University Avenue
- 8. Liberty Street and Division Street
- 9. Fuller Road and Glen Avenue
- 10. Ann Street and Glen Avenue
- 11. 1st Street and Huron Street

Focus Areas

Tier 1 Focus Corridors
Tier 1 Focus Intersections
Tier 2 Focus Corridors
Tier 2 Focus Intersections



2. Address Dangerous Behaviors



Safety



Mobility



Accessibility
for All



Healthy People &
Sustainable Places



Regional
Connectivity

Address dangerous behaviors using design solutions, policy changes, and education efforts.

Current State

Dangerous driving behaviors accounted for a large share of crashes that resulted in death and serious injury in Ann Arbor between 2014 and 2018. Seventy percent of all crashes that resulted in a fatality or serious injury during that time involved one or more of the following dangerous behaviors:²

1. Speed

Speed is a major determinant of both the likelihood and severity of traffic crashes. As driving speeds increase, drivers need more time to react to potential conflicts, their field of vision

narrows, and the distance required to come to a complete stop dramatically increases. Higher speeds also increase the likelihood that a crash will result in a serious injury or death, especially if a person walking, biking, or rolling is involved. The majority (55%) of all crashes where someone was killed or seriously injured in Ann Arbor occurred on streets with speed limits of 35 miles per hour (mph) or higher. No one was killed in a traffic crash on streets with 25 mph speed limits, even though those account for 81% of Ann Arbor's street network.

2. Failure to yield

Half of all the traffic crashes where a person walking or biking was killed or seriously injured involved a driver failing to yield. Ann Arbor has been working to address these issues by

standardizing crosswalk design and signage; improving street lighting; educating residents, workers, and visitors about applicable laws; and using smart enforcement strategies. These efforts are having a positive impact, as the number of serious crashes where the driver failed to yield has been significantly decreasing.

3. Impaired driving

There were 362 crashes that involved drugs or alcohol, 38 of which resulted in a death or serious injury. Ann Arbor is focused on preventing impaired driving through a combination of education, treatment, and programs that prevent people from driving under the influence of drugs or alcohol.

4. Disregarded traffic signs/signals

Traffic signs and signals provide everyone using the street instructions on safe behavior. When people disobey a traffic sign or signal, they put themselves and other road users in serious danger of crashes and injury. Eleven percent of crashes where someone was killed or seriously injured involved disregarding traffic signs or signals.

5. Reckless/careless driving

Reckless and careless driving involve negligent and unsafe driving. Reckless driving involves the intention to drive dangerously while

careless driving may not be intentional. While data regarding distracted driving is unreliable in traditional crash reporting, it often leads to careless driving and can therefore represents a dangerous behavior similar to reckless and careless driving. These dangerous behaviors put all nearby road users at risk for crash and injury. Five percent of crashes where someone was killed or seriously injured involved reckless or careless driving.

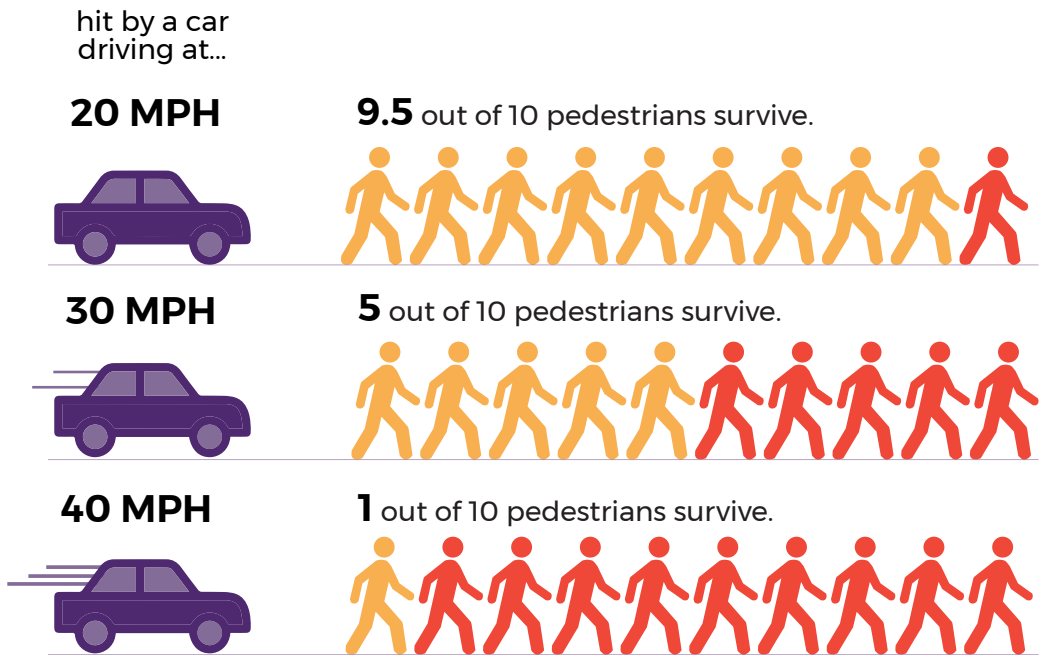
Strategy Description

Decreasing the prevalence of these dangerous driving behaviors will require a systematic approach combining infrastructure and street design changes, new policies and programs, and new education and marketing efforts.

Timeline



Short
(0-3 years)



Address Dangerous Behaviors

Tools by Dangerous Behavior

Tool	Speeding	Failure to Yield	Impaired Driving	Disregard Traffic Control	Reckless/ Careless Driving
Setting safe speeds and matching design speed	✓				
Major Street Traffic Calming	✓				
Local Street Traffic Calming	✓			✓	✓
Street Reconfiguration	✓				
Lane Width	✓				
On-Street Parking	✓				
Automated Enforcement	✓	✓		✓	
Signal Timing	✓				
Street Trees and Streetscaping	✓				
Lagging Left Turn Phase		✓			
Left Turn Traffic Calming	✓	✓			✓
LPI & accessible pedestrian signals	✓	✓			
Curb Extensions	✓	✓			
Minimal Curb Radii	✓	✓			
Street Lighting	✓	✓			
Raised Intersections	✓	✓			✓
Simplified Intersections	✓	✓			
Messaging Campaign	✓	✓	✓	✓	✓
Education and Enforcement	✓	✓	✓	✓	✓
Update/Expand Driver Education	✓	✓	✓	✓	✓
Drug, alcohol, & mental health prevention & treatment services			✓		
Pre-payment morning parking			✓		
After hours subsidized ride hail			✓		

Targets

1. Adopt the following policies:
- » Set 25 mph default speed limit downtown and on local residential streets within 1 year.

» Adopt a major street traffic calming program within 2 years.

» Adopt a policy to install curb extensions by default on streets with on-street parking within 1 year.

» Adopt policy to use smallest feasible curb radii within the next 3 years.
2. Install 10 curb extensions (either temporary or permanent) per year.
3. Install 5 centerline hardening/slow turn wedge treatments per year.
4. Reduce serious and fatal injury crashes that result from dangerous behaviors by 50% within 3 years.

Lead Agency/Stakeholders

- » Engineering
- » AAATA
- » Ann Arbor Fire Department (AAFD)
- » Ann Arbor Police Department (AAPD)
- » City Council
- » DDA
- » Fleet and Facilities
- » MDOT
- » Public Works
- » State Representatives
- » Systems Planning
- » Transportation Commission
- » University of Michigan
- » Washtenaw Area Transportation Study (WATS)
- » Washtenaw Bicycling & Walking Coalition (WBWC)
- » Washtenaw County Health Department

SETTING SAFE SPEED LIMITS

Reducing vehicular speeds throughout Ann Arbor is likely the most effective, singular approach to improving safety on Ann Arbor’s streets. The city must work with MDOT to fully achieve this objective, as many streets are under state jurisdiction.

However, there are actions that the city can take right away. Recognizing that many cities do not have full control over setting speed limits on streets that travel through them, guidance from National Association of City Transportation Officials (NACTO) suggests the following tools to systematically reduce speeds:

- ✓ Set **default speed limits** on many streets at once.
- ✓ Designate **slow zones** in sensitive areas
- ✓ Set corridor **speed limits on high priority major streets** using a Safe Speed Study

Address Dangerous Behaviors

Setting Safe Speed Limits and Matching Design Speed

Dangerous Behaviors Speed

Description

Setting safe speed limits is essential for reducing crashes; particularly for eliminating the crashes and the crash severity of those that do not have a design solution. Numerous studies have demonstrated that reducing speeds leads to a reduction in crashes.^{3,4,5,6}

Michigan state law requires cities to use the 85th percentile speed to determine speed limits, which forces engineers to match speed limits to existing driver behavior rather than trying to align driver behavior with safety goals. Both the National Transportation Safety Board (NTSB) and NACTO recommend alternative methods to the 85th percentile speed.^{7,8}

It is also critical that a street’s design speed (the speed at which drivers are intended to travel based on design factors) does not exceed the targeted safe speed, to reinforce the posted speed limit and establish an intuitive roadway design.

Ann Arbor Action

Ann Arbor has designated several school zones and reduced speed limits surrounding schools.

Next Action Steps

- ✓ Expand school zones with reduced speed limits to all schools around the city.
- ✓ Lobby for authority to set 20 mph limits for school zones.
- ✓ Establish 25 mph or lower as the default speed limit in downtown (per Michigan Vehicle Code Act 300 of 1949, 257.627(b)).
- ✓ Establish 25 mph or lower as the default speed limit on local residential streets (per Michigan Vehicle Code Act 300 of 1949, 257.627(e)).
- ✓ Join with other cities to advocate for changes to state law that enable cities to set safe speed limits that reduce crashes, deaths, and injuries, per NACTO and NTSB. Once in place, establish maximum speed limit of 30 mph on city streets.
- ✓ Conduct a safe speed study on focus corridors to determine a coordinated and complementary approach to reducing speeds through design solutions that match the target speed and posted speed limit.

Major Street Traffic Calming

Dangerous Behaviors Speed

Description

Major street traffic calming is a method of slowing traffic through physical treatments to major streets.

Major street traffic calming tools:

- » Lane optimization
- » Lane width reduction
- » Raised intersections, designed to ensure compatibility with emergency vehicles
- » Adding street trees and streetscaping elements
- » Converting turn lanes into pedestrian safety islands or curb extensions
- » Simplified intersections
- » Left-turn traffic calming including hardened centerlines and slow-turn wedges
- » Signal timing
- » Roundabouts
- » Minimal curb radii
- » Speed limit reduction
- » Micro-roundabouts
- » Chicanes

Ann Arbor Action

The city has a Traffic Calming Guidebook & Traffic Calming Program which provides a process and design information about various traffic

calming tools. However, the current program is only approved for use on local streets.

Next Action Steps

- ✓ Adopt a major street traffic calming toolkit that identifies appropriate traffic calming treatments on major streets, an appropriate engagement process for major street project areas, process for identifying issues and appropriate treatments, and approval thresholds for implementation.

Lane Width

Dangerous Behaviors Speed

Description

Vehicle speeds are influenced by how fast a driver feels they can safely travel. Narrower travel lanes require greater caution to maintain the lane and avoid conflicts and may lead to lower vehicle speeds and improved safety.

Next Action Steps

- ✓ Formally adopt the city’s practice of using 10’ as the default lane width on all city streets (with exceptions for transit and truck routes).
- ✓ Reassess lane width in all reconstruction projects.



Address Dangerous Behaviors

Street Design and Operations Tools

Local Street Traffic Calming

Dangerous Behaviors
Speed, Disregard signs/ signals, Reckless/careless driving

Description
Local street traffic calming is a method of slowing traffic through physical treatments to local streets.

In order to address traffic calming more equitably and comprehensively, the existing traffic calming program could be expanded to take a neighborhood-based approach, addressing a small network of streets together. Priority for areas should be given to areas with demonstrated need due to crashes, records of speeding, and/or resident complaints. Consideration for traffic calming treatments should factor in the All Ages and Abilities Bike Network (see Strategy 6).

Ann Arbor Action

The city has a Traffic Calming Program that provides residents a formal process for engaging the city to perform technical analysis of traffic concerns on local streets and explore options for effective solutions.

Next Action Steps

✓

Pilot a neighborhood-based approach to traffic calming.

Street Reconfiguration

Dangerous Behaviors
Speed

Description
Street reconfiguration, or road diets have demonstrated safety benefits, often reducing travel speeds and making it easier and safer for people walking to cross the street by simplifying the crossing. A road diet reduces the overall number and/or size of travel lanes on a street and repurposes that space for other uses, such as bicycle infrastructure, dedicated transit facilities, or public space.

Ann Arbor Action

Street reconfigurations on Green Road, Jackson Avenue, Packard Street, Platt Road all led to reductions in crash rates.

Next Action Steps

✓

Implement roadway reconfigurations where opportunities have previously been identified.

✓

Evaluate opportunities for lane reductions in corridor studies and projects.

✓

Annually review roadway re-configuration needs, based on safety analysis, and opportunities along MDOT roadways in coordination with MDOT.

Signal Timing

Dangerous Behaviors
Speed

Description
Traffic signals along a stretch of road should be timed for the desired safe vehicle speed and for efficient travel by pedestrians and bicyclists at a comfortable speed.

In the downtown area, signals should be timed for a comfortable walking speed. If there is no dominant direction for pedestrian travel, signal cycle lengths should be between 60 and 90 seconds, per NACTO guidance.

Along corridors outside of downtown, consideration should be given to bicycle travel when timing signals, particularly along key bike routes. A speed of 12-15 mph should be assumed for bicycle travel. Adjustments to signal timing along any corridor should also be aligned with changes to the posted speed limit to allow for the efficient progression of bicyclists and vehicles with the same timing plan.

Next Action Steps

✓

Evaluate signal timing in the downtown.

✓

Evaluate signal timing along key bike routes.

On Street Parking

Dangerous Behaviors
Speed

Description
On street parking helps reduce effective curb-to-curb widths, provides a form of separation between the travel way and sidewalk, and requires drivers to be more alert. These factors can lead to safer driving speeds and increase comfort and safety for people walking. Time restrictions can vary by time of day.

The addition or retention of on-street parking should always be evaluated alongside other objectives for corridor. There may be cases where the space dedicated for on-street parking could be instead allocated to installation or upgrades to pedestrian, bicycle, and/or transit infrastructure that would have an even greater impact on safety and mobility. Refer to Strategy 6 for corridors where bicycle infrastructure should be prioritized and to the Mobility Fact Book for an analysis of pedestrian demand, indicating where greater pedestrian amenities may be desired.

Next Action Steps

✓

Assess opportunities for on-street parking as corridors are planned for and designed.



Address Dangerous Behaviors

Automated Enforcement

Dangerous Behaviors

Speed, Failure to yield, Disregard signs/ signals

Description

Automated safety cameras identify and ticket motorists who are exceeding the speed limit or going through a red light. Considerations can be made for penalties and equitable fines on a sliding scale.

Next Action Steps

- ✓ Advocate for changes to Michigan Vehicle Code Act 300 of 1949, 257.742 to permit “automated traffic enforcement safety device” to identify marked license plates for speeding and red lights.
- ✓ Identify automated enforcement device and prepare infrastructure where possible, such as communication needs, device support, and back end processing needs.

Street Lighting

Dangerous Behaviors

Failure to Yield

Description

Adequate lighting is critical for drivers to be able to see people crossing the road. Street lighting should be consistent along both sides of the street and special attention should be paid to lighting levels and contrast lighting, which is achieved by installing lighting in advance of uncontrolled crosswalks from each direction.

Pedestrian-scale lighting focuses light on the sidewalk and should be used in addition to street lighting in areas of high pedestrian activity, such as throughout downtown and at transit stops.

Ann Arbor Action

The Capital Improvements Plan includes funding for capital maintenance and street lighting on Ann Arbor-Saline Road, Liberty Street, and Packard Street.

Next Action Steps

- ✓ Evaluate lighting at all uncontrolled marked crossing locations and plan for upgrades where needed.
- ✓ Consider pedestrian-scale lighting in future streetscape projects

Street Trees & Streetscaping

Dangerous Behaviors

Speed

Description

Street trees are trees planted within the right-of-way, either adjacent to sidewalks or in landscaped medians. They provide comfort, safety, shelter and joy, all qualities that draw more people to a space and contribute to a higher quality of life. Street trees have the added benefit of narrowing perceived street width, slowing drivers. Street trees also provide numerous ecosystem services. They sequester carbon, mitigate the urban heat island effect, manage and filter rain and stormwater, and much more. Street trees and other landscaping must be designed and installed so as not to obstruct sight lines

Ann Arbor Action

Each year, the city strives to plant as many trees as possible with the Street Tree Planting Plan. For residents interested in planting a tree on a street not part of the plan, they can participate in the Resident/Contract Tree Planting Program.

Next Action Steps

- ✓ Continue the Street Tree Planting Plan
- ✓ Promote the Resident/Contract Tree Planting Program



Yost Boulevard and Parkwood Avenue

Address Dangerous Behaviors

Street Design and Operations Tools

Lagging Left-Turn Phase

Dangerous Behaviors
Failure to Yield

Description

At intersections with a protected left turn phase, a lagging left turn phase – where left turn arrows are provided after the green signal in the same direction instead of before the green signal – allows pedestrians to cross first. This minimizes conflicts between pedestrians and turning vehicles.

Next Action Steps

- ✓ Evaluate existing signals with leading left turn phases for conversion to lagging left turns.
- ✓ Incorporate routine evaluation of a lagging left turn phase into all future traffic signal projects.

Left-Turn Traffic Calming

Dangerous Behaviors
Speed, Failure to Yield, Reckless/
careless driving

Description

Hardened centerlines are typically created by installing low plastic barriers and flexible delineators on top of centerlines at intersections. They discourage left-turning vehicles from crossing over the centerline of the receiving street, forcing a tighter and slower turn. Hardened centerlines should only be used on streets where a centerline is marked.

A **slow-turn wedge** uses paint, low plastic barriers and plastic flexible delineators to create a tighter turn radius. Slow-turn wedges are an appropriate short-term solution before permanent curb work can be completed or can be a long-term solution that allows emergency vehicles, buses and garbage trucks to still make a turn.

Next Action Steps

- ✓ Add hardened centerlines and slow turn wedges to the Traffic Calming Guidebook and Major Streets Traffic Calming Guidebook.

Leading Pedestrian Intervals & Accessible Pedestrian Signals

Dangerous Behaviors
Failure to Yield

Description

Leading Pedestrian Intervals (LPI) are signals that allow pedestrians to start crossing the street before vehicular traffic in the same direction is given the green light. The walk signal is lit before the vehicle signal, giving pedestrians a head-start on crossing the street, which improves visibility and reinforces the need for drivers to yield.

LPIs should be considered at all locations where signals are being transitioned from protected left turns (where drivers can turn only on a left-turn arrow) to a permissive-protected left turn (where drivers may turn on a green signal or flashing yellow arrow).

Accessible pedestrian signals (APS) provide auditory and/or tactile guidance to aid visually impaired pedestrians in crossing. New or modernized traffic signals should incorporate APS technology. Where a leading pedestrian interval is being added to an existing signal, APS should also be installed.

Ann Arbor Action

The city recently updated all intersections with pedestrian signals under city jurisdiction to use LPIs.

Next Action Steps

- ✓ As Ann Arbor installs additional pedestrian signals around the city, all of these should be programmed with LPIs and APS.
- ✓ Continue working with MDOT to upgrade signals on state routes to include LPIs.



Pedestrian Signal Head



Address Dangerous Behaviors

Street Design and Operations Tools

Curb Extensions

Dangerous Behaviors Failure to Yield

Description

A curb extension (bump-out) extends the sidewalk and aligns pedestrians with a parking lane. Curb extensions often occur at corners but can be implemented mid-block too. Curb extensions reduce crossing distances, slow turning vehicles, and improve pedestrian visibility.

In permanent form, curb extensions require rebuilding the curb and sidewalk. However, curb extensions can be extremely effective with much less construction and cost. Paint, bollards and planters can create an immediate but effective curb extension.

Ann Arbor Action

The DDA has identified curb bump-outs as a tool for all types of streets except transit emphasis streets.

The city uses bump-outs for school safety improvement projects, and they are included in the Traffic Calming Program.

Next Action Steps

- ✓ Bump outs should be considered in Capital Improvements Planning streetscape projects.
- ✓ Implement a policy to install bump-outs by default on streets with on-street parking.



Curb Extension

Minimal Curb Radii

Dangerous Behaviors Failure to Yield

Description

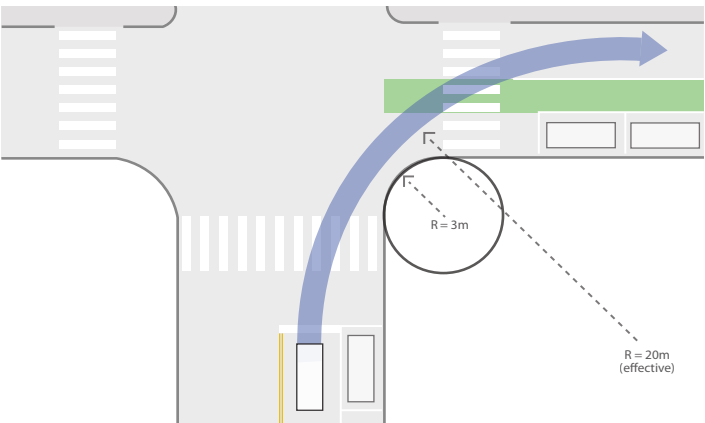
The curb radius (the radius created by two sidewalks on perpendicular streets connecting at a corner) impacts the speed of turning vehicles and the length of the crosswalk. Smaller curb radii encourage safer speeds for turning vehicles and create shorter crossing distances for people walking. Slower turning speeds enable drivers to better recognize people walking and react and stop more quickly, making it easier to avoid a crash. Permanent changes require reconstructing the curb, but changes can be made immediately using low-cost materials. Larger-turning vehicles may require wider turn angles.

On streets with on-street parking and/or bike lanes, the effective curb radius can be much larger than the radius, as shown to the right, allowing the street design to include a small curb radius while still accommodating turns by large vehicles. The effective radius should be considered when designing corners.

Street Design and Operations Tools

Next Action Steps

- ✓ Implement a policy to use smallest feasible curb radii. On roads with significant truck volumes, use truck aprons to enable turns for large vehicles while maintaining a small radius for regular vehicles.



Curb Radius and Effective Curb Radius



Address Dangerous Behaviors

Street Design and Operations Tools

Raised Intersections

Dangerous Behaviors

Failure to yield, Reckless/ careless driving

Description

Raised intersections elevate the entire area of an intersection, including crossings, to the level of the sidewalk. This vertical shift signals to motorists that they are approaching an area they should treat with caution, gives pedestrians more visibility and forces motorists to slow down or risk damaging their vehicles. Raised intersections may benefit from flexible delineators at corners in high-traffic areas to prevent vehicles from encroaching on the sidewalk when turning.

Ann Arbor Action

Raised crossings and intersections are included in the Traffic Calming Program Guidebook.

Next Action Steps

- ✓ Expand use of raised intersections to major streets; work with Ann Arbor Fire Department and Public Works to identify routes where raised intersections should be avoided.
- ✓ Work with streetscaping and resurfacing projects in Capital Improvements Plan.

Simplified Intersections

Dangerous Behaviors

Failure to Yield

Description

Simplified intersections eliminate excessive or confusing intersection legs, with intersecting streets as close to perpendicular as possible. Complex intersections feature more than two streets crossing at the same point, streets crossing at offset points or streets crossing at odd angles. These intersections often feature wide turning radii (which increase vehicle speeds), excessive pavement (which increases pedestrian crossing distances) and additional crossings required to reach the other side of the street.

Paint, flexible delineators and planters can simplify intersections effectively in the short-term and at low cost. If proven successful, these tactics can inform long-term, permanent reconstruction.

Next Action Steps

- ✓ Inventory complex intersections and develop quick-build design solutions.
- ✓ Evaluate effects of quick-build solutions and develop permanent interventions.

Messaging Campaign

Dangerous Behaviors

All

Description

In order to make the lasting behavior changes that are needed to eliminate fatalities and serious injuries on our streets, investments made in physical changes to the city's infrastructure should be paired with education and messaging. Messaging campaigns should employ a multi-channel approach (e.g., social media, billboards, and earned or paid media) to reach broad audiences and/or key groups.

As past examples such as Click It or Ticket have demonstrated a positive impact on behavior. However, research has shown that traffic safety campaigns are much more effective when paired with education and enforcement.⁹ Effective campaigns test messages and images through focus groups or similar strategies before rolling out a full campaign.

Messaging campaigns could include messages to educate drivers as well as bicyclists and pedestrians, such as messaging about the 3-foot passing law and how to be conspicuous and seen when walking and bicycling, including the use of front and rear lights on bicycles. These campaigns should be coupled with initiatives such as bike light giveaways as a chance to interact with and educate bicyclists and remove

Education and Encouragement Operations Tools

the disincentive of purchasing the lights. Similar models can be used for other desired behavior changes.

Ann Arbor Action

The city has rolled out the education program A2 Be Safe to promote safety. In addition, coordination with upcoming campaigns by SEMCOG and the Michigan Office of Highway Safety Planning will provide a consistent message and amplify those efforts.



A2 Be Safe Campaign

Next Action Steps

- ✓ Continued outreach and education should be paired with other efforts being pursued by the city, such as reduced speed limits, or new infrastructure treatments.
- ✓ Review and evaluate the effectiveness of the A2 Be Safe Campaign and best practices from other communities and identify ways to amplify the impact of the campaign.



Address Dangerous Behaviors

Education and Encouragement Tools

Education and Enforcement

Dangerous Behaviors All

Description

» **Targeted Education:** Targeted education focuses on specific behaviors that are a safety concern, such as crosswalk compliance, and complements enforcement efforts with education. Often, the enforcement does not result in ticketing or fines, but instead focuses on the educational value of addressing specific behaviors. Police officers can disseminate informational materials and media coverage can help publicize the enforcement efforts to extend the reach of the educational messages.

» **Safety Zones & Automated Enforcement:** Some communities identify safety zones around schools and parks and use enhanced signage and automated safety cameras to identify and ticket motorists who are exceeding the speed limit.

Next Action Steps

- ✓ To ensure transparency, any ticketed or fined enforcement should be posted on an open data source (with potential identifying information redacted) and reviewed quarterly for potential disparities.

Update and Expand Driver Education

Dangerous Behaviors All

Description

The transportation landscape has been changing rapidly in the past 5-10 years. As communities introduce new infrastructure treatments to increase safety and new modes of transportation emerge, driver education needs to be updated to stay current and teach drivers how to navigate safely within these new contexts.

At the same time, emerging mobility options, such as e-scooters, bike share, and other shared mobility, offer many people the opportunity to get around without ever driving and obtaining a driver's license. "Driver" education should be expanded to reach everyone, so that even those who do not intend to get a driver's license learn how to use a variety of modes safely and learn how to safely navigate public streets.

Next Action Steps

- ✓ Partner with other cities or interested organizations (such as public health organizations) to advocate for updated, expanded driver education state-wide that focuses on all modes of transportation and safety of the most vulnerable users.
- ✓ Partner with driver education programs to develop updated content.

Drug, alcohol, and mental health prevention and treatment services

Dangerous Behaviors Impaired Driving

Description

Allocating a portion of marijuana/alcohol tax to drug, alcohol, and mental health prevention and treatment services will enable the city to better address the root causes of impaired driving.

Next Action Steps

- ✓ Work with Washtenaw County health department to discuss mental health prevention and treatment services.

Pre-payment Morning Parking

Dangerous Behaviors Impaired Driving

Description

Work with the DDA to allow and advertise pre-payment for morning parking so impaired drivers can leave their vehicle behind.

Next Action Steps

- ✓ Collaborate with DDA to allow pre-payment morning parking.

Education and Encouragement Tools

After Hours Subsidized Ride Hail

Dangerous Behaviors Impaired Driving

Description

Work with bar owners, ride hail services (Uber/Lyft), TheRide, taxis, University of Michigan, and others to develop an impaired driving prevention program, including subsidized rides home from drinking establishments and free transit on days with high rates of impaired driving.

Ann Arbor Action

University of Michigan provides several afterhours options for their students

» **Ride Home:** Free shared-ride taxi service for students, faculty and staff to their residence halls, vehicles parked in UM operated lots or structures, or local residence (within a one-mile radius of Central and North Campuses). This service is available after UM transit buses conclude daily service, seven days a week.

» **Night Ride Home:** Shared-ride taxi service within Ann Arbor (when regularly scheduled AAATA bus service is not available). Fee is \$5 per person.

Next Action Steps

- ✓ Continue to expand after hours options for residents and not just students.



3. Quick-Build

Establish a quick-build improvement program.

Current State

The process of planning and designing safety improvements then finding funding, gaining approvals, and re-constructing a street can take years. While a project works its way through this process, unsafe conditions may persist.

Strategy Description

Quick-build projects address safety issues using paint or other pavement markings, signs, and other low-cost materials that are easy to install, adjust, and remove. Cities around the country, including smaller cities with northern climates, are using quick-build tactics to create safer streets much faster than typical processes allow. With quick-build projects, cities can introduce new street designs and gather feedback, evaluate the impact of different tools, and work with the community to refine a project's final design.

A program that includes a set of quick-build safety interventions and establishes standard designs and materials will enable Ann Arbor to stock the necessary materials, train in-house crews or set up an on-call contract for installation, and make safety improvements in



Safety



Mobility

a matter of months rather than years. Quick-build projects can be implemented as stand-alone projects or can be coordinated with other street work, such as street resurfacing. Ann Arbor should establish a process for quick-build projects that allows for administrative approval. A quick-build safety program could be funded with revenues from the Major/Local Streets Funds, County Millage, Street Millage Fund, and/or the General Fund. Quick-build safety projects have very low costs, typically ranging from \$5-\$30,000, but do require staff time (or funds for contractors) for engagement, design, installation, maintenance, and evaluation. After identifying a specific location and issues to be addressed, the following steps should be incorporated into the process for quick-build safety projects:

1. Engage the public.
2. Set clear goals.
3. Gather relevant data before installation.
4. Consider project timing and opportunities for coordination.
5. Finalize project design.
6. Inform nearby residents and businesses.
7. Establish a maintenance plan.
8. Install improvements.
9. Gather relevant data following installation. Refer to "Implementation Pathways" in Section 6.



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10. Gather feedback from the community.
11. Publicize project outcomes.
12. Adjust project design based on data/feedback or begin planning for permanent solution.

Commonly used quick-build materials:

- » Flexible delineator posts
- » Armadillos (Zicla Zebra system)
- » Recessed pavement markers
- » Plastic bollards (K-71 bollards)
- » Planters
- » Wheel/parking stops
- » Raised lane separators
- » Concrete/plastic barriers
- » Pavement markings/colored pavement
 - Tempera paint (less than one month)
 - Latex or acrylic paint with slip resistant additive (up to three years)
 - StreetBond, methyl methacrylate (MMA), thermoplastic (up to five years)



Zicla Zebra
Photo credit: Zicla.com

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » Public Works
- » DDA
- » Transportation Commission
- » City Council

Target

1. Install at least three quick-build safety projects **per year**, prioritizing focus corridors and intersections.



Flexible delineator posts

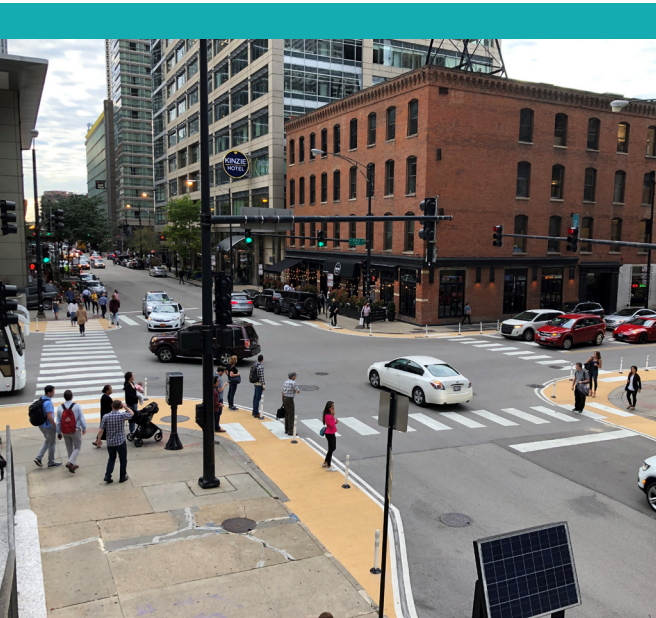


Quick-Build

Quick Build Safety Design Tools

Curb Extensions

Location: Chicago, IL



Pedestrian Refuge Islands

Location: Chicago, IL



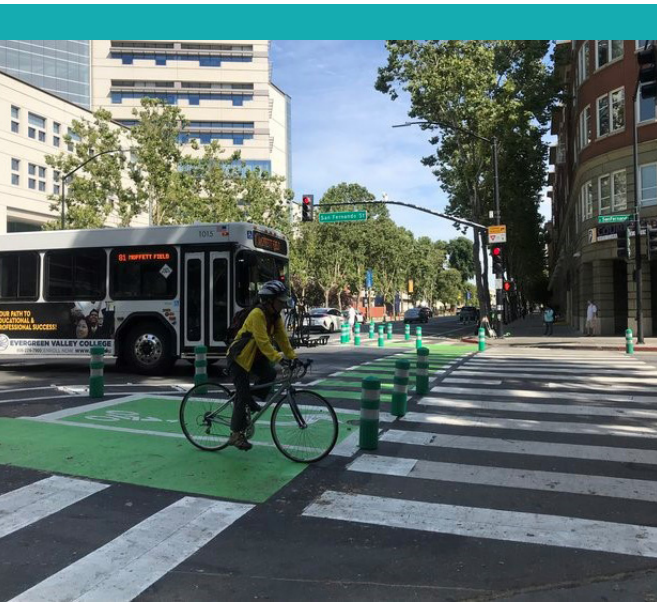
Protected Bike Lanes

Location: Toronto, Canada



Bicycle Intersection Improvements

Location: San Jose, CA



Mini Roundabouts

Location: Sao Paulo, Brazil



Photo credit: NACTO

Hardened Centerlines

Location: Washington, D.C.



Diverter

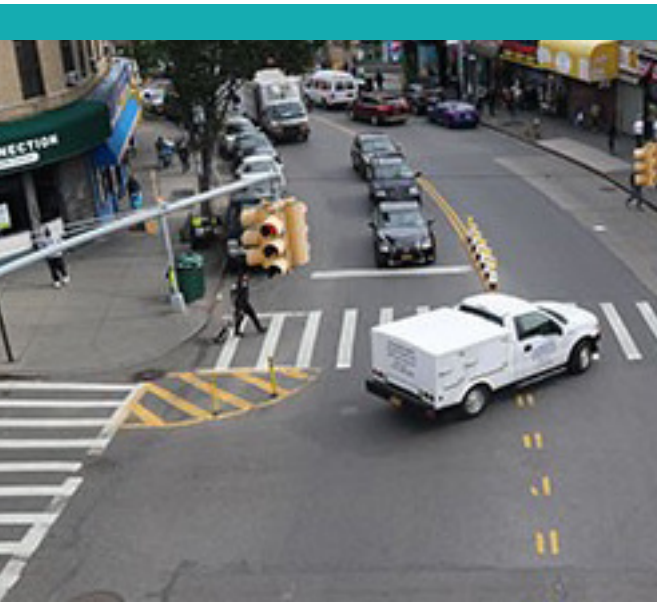
Location: Rogers, AR



Photo credit: Streetplans

Slow Turn Wedges

Location: New York, NY



4. Sidewalks

Address critical gaps in the sidewalk system

Current State

Ann Arbor has one of the highest rates of people walking to work of any city in the country—19% in 2018. The city’s 2013 Non-Motorized Transportation Plan identified 25 miles of sidewalk gaps that were crucial to fill in the near-term and to-date 15 miles of these gaps have been addressed. In addition to completing the remaining 10 miles of near-term sidewalk gaps, there are an additional 18 miles of sidewalk gaps on major streets around the city.

Strategy Description

Filling the remaining near-term sidewalk gaps, plus the remaining sidewalk gaps along major streets, is essential for creating a connected, accessible system of sidewalks covering all areas of the city.

Prioritization

The city uses a variety of criteria, including proximity to schools, transit, and affordable housing, to identify the highest priority sidewalk gaps the city should work to address first. Ann Arbor has been systematically installing new sidewalks based on the



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Mobility



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prioritization results from the 2013 Non-Motorized Transportation Plan and should begin prioritizing the remaining gaps along major streets.

Funding

In November 2020, Ann Arbor residents voted to increase property taxes in order to provide a dedicated funding stream to complete the city’s sidewalk gaps. Prior to the passage of the millage, sidewalk construction was required to be specially assessed to the adjacent property owners.¹⁰ This requirement placed a burden on property owners, can negatively impact the equitable distribution of sidewalks, and fails to recognize the role each segment of sidewalk plays in creating a connected sidewalk system that benefits all city residents, workers, and visitors.

The City Charter Amendment for the tax for the construction of new sidewalks is estimated to raise \$1.3 million in its first year.

Interim Solution

Where sidewalks cannot be constructed on a reasonable schedule, gaps in sidewalk coverage can be filled by providing interim sidewalks at the grade of the street, using physical separation elements such as parking

stops, edge markings, and pavement color and/or texture. This approach could be applied to lower priority gaps so that safety is improved in the short term while waiting for permanent upgrades.



Timeline

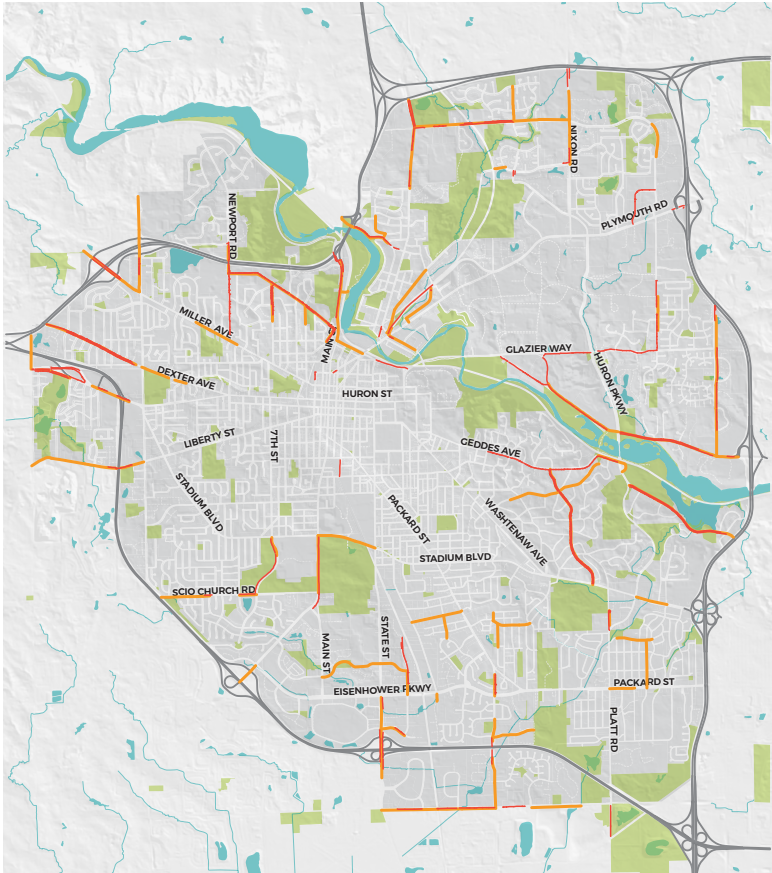


Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » Public Works
- » System Planning
- » City Council
- » MDOT
- » Private Developers

Critical Sidewalk Gaps



- Near-Term Sidewalk Gaps
- Sidewalk Gaps along Major Streets

Targets

1. Complete all remaining near-term sidewalk gaps within 3 years.
2. Complete all sidewalk gaps on major streets within 7 years.



5. Crosswalk Safety

Enhance safety and visibility at uncontrolled crosswalks.

Current State

Uncontrolled crosswalks are those located between intersections (mid-block) or at intersections without a traffic signal, stop sign, or yield sign (uncontrolled intersections). Designated crosswalks increase safety and convenience for people walking by providing markings and/or signs at desired crossing locations. Along corridors with long spacing between existing crossings, installing additional crosswalks mid-block or at uncontrolled intersections can save people walking significant amounts of time and reduce the likelihood of people trying to cross at unmarked locations.

It is critical that uncontrolled crosswalks are accompanied by the appropriate safety features, and the city has developed crosswalk design guidelines that detail the appropriate treatments for different locations. Since 2007, the city has installed 94 uncontrolled crosswalks along with 49 rectangular rapid flashing beacons (RRFBs) and 28 pedestrian refuge islands.¹¹ According to the online Pedestrian Crossing Survey (n=954), people find crosswalks with an RRFB or pedestrian hybrid beacon and enhanced lighting to be the most clear and comfortable, as both drivers and pedestrians.



Safety

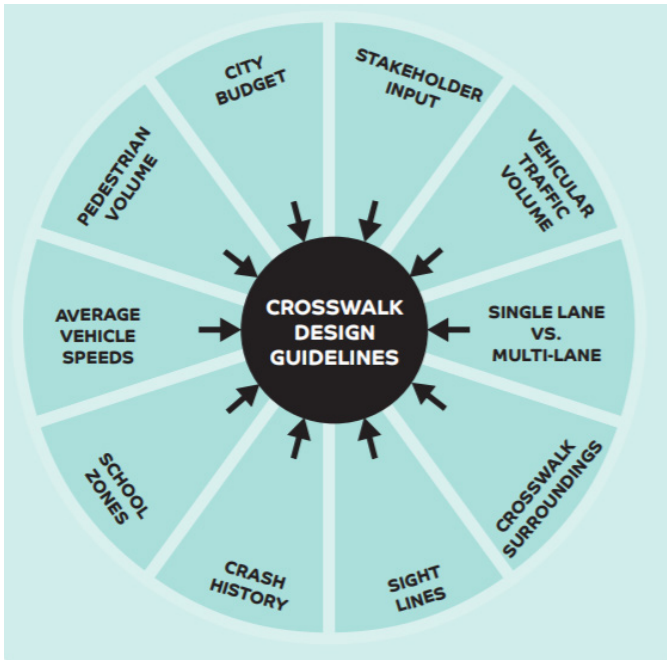


Mobility

Ann Arbor’s crosswalk ordinance mandates drivers to stop for pedestrians standing at the curb or within a crosswalk. Continued efforts are needed to make drivers aware of the law and practice of stopping for pedestrians in crosswalks (see Strategy 2). A recent study by Western Michigan University showed an increase in driver yielding from 28.5% to 65.2% where crosswalk installations were paired with additional signage, communication, and enforcement.

Strategy Description

Installing - and maintaining - all existing and new crosswalks consistently, in line with the crosswalk design guidelines will help drivers to recognize crosswalks.



Guidelines Factors



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Uncontrolled Crosswalk Assessment Program

In order to address uncontrolled crosswalk inconsistencies, the city should develop a program to review which existing uncontrolled crosswalks meet the crosswalk design guidelines and which require upgrades. Selection for upgrading existing uncontrolled crosswalks should take an equitable approach that prioritizes locations with a high incidence of serious crashes, areas with vulnerable populations, locations near schools or parks, and locations where the public wants to see crossings improved based on results from the Pedestrian Crossing Survey.

New Uncontrolled Crosswalk Locations

In addition to enhancing existing uncontrolled crosswalks, there are still locations around the city that require new uncontrolled crosswalks to increase convenience and safety for people walking. The Pedestrian Crossing Survey included a map-based activity where respondents could identify places where new crosswalks are needed. Using this input, 26 priority locations for new uncontrolled crosswalks were identified based on the location’s distance from an existing crosswalk or signalized intersection and crash history.

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » Systems Planning
- » Public Works
- » MDOT
- » University of Michigan
- » DDA
- » Parks
- » Ann Arbor Public Schools Transportation Safety Committee
- » Ann Arbor Housing Commission (AAHC)
- » AAATA

Targets

1. Assess all existing uncontrolled crosswalks and identify necessary enhancements within 3 years.
2. Enhance 25 uncontrolled crosswalks per year.
3. Install 10 new uncontrolled crosswalks per year.
4. Establish a regular maintenance plan for crosswalks by 2022.



Crosswalk Safety

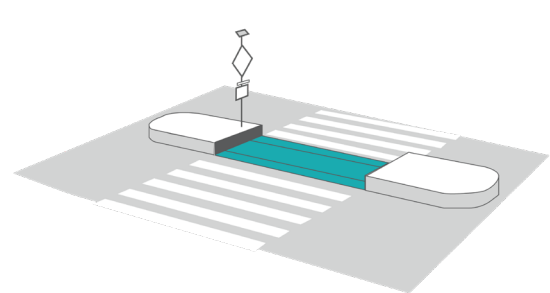
Features at Mid-Block Crosswalks in Ann Arbor

Mid-block crosswalks are important for providing convenient pedestrian access. Depending on the type of street and context, different features are necessary to ensure people walking are visible and safe.

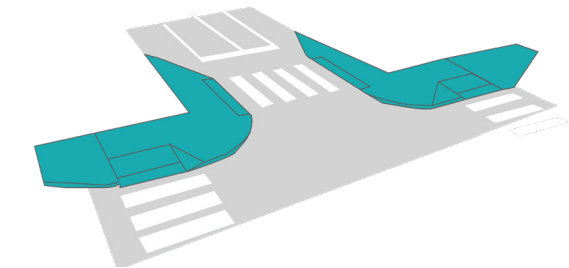
Functional Classification	# of Crosswalks	% with Signage	% with Lighting	% with Island	% with RRFB	% with Gateway	% with Bumpout
Local	31	39%	32%	39%	39%	0%	13%
Collector	53	58%	14%	14%	14%	2%	3%
Minor Arterial	88	24%	23%	24%	24%	10%	4%
Principal Arterial	57	17%	16%	17%	17%	2%	2%
Total	229	59%	57%	59%	59%	14%	10%

Examples of Crosswalk Features

Pedestrian Island



Curb Bumpout

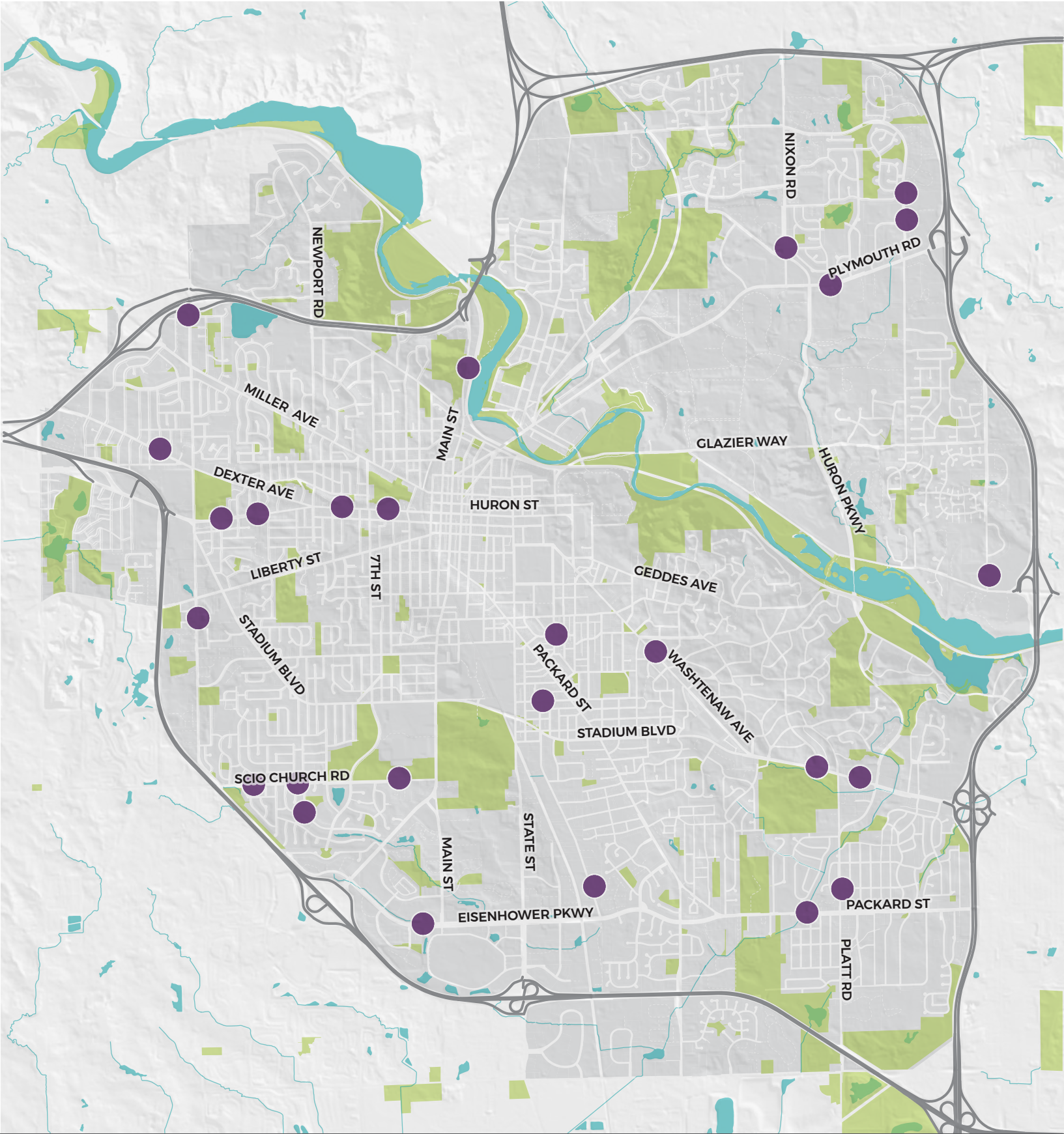


RRFB



Priority of Locations for New Uncontrolled Crosswalks

New Uncontrolled Crosswalks



6. Bike Routes

Build out a safe, comfortable network of bike routes for people of all ages and abilities.

Current State

Ann Arbor has been working to create an environment and culture that supports biking for more than a decade. Since 2007, Ann Arbor has nearly doubled the total length of designated bikeways, installing 78 miles of new bike lanes and shared use paths.¹² These investments have led to more people biking to get to work (36% increase from 2009 to 2018)¹³ and for everyday trips around the city (37% increase in bicycle counts on select streets).¹⁴

However, biking on many streets can still be stressful due to the volume and speed of traffic and lack of separation between people biking and cars. An evaluation of the level of traffic stress experienced by people biking rated the majority of non-local streets around the city as high stress. Nearly three-quarters (72%) of all crashes involving a person biking occurred on these high stress streets.¹⁵ Findings from the online Bike Level of Comfort Survey (n=1,041) indicate that 79% of respondents would ride a bike more if they felt safer and more comfortable on streets. Building safe, comfortable bike routes is especially important for encouraging more women, older adults, and children to bike. While biking has increased significantly in Ann Arbor over the



Safety



Mobility

years, the number of men who bike to work is still more than three times greater than the number of women.

Strategy Description

To continue increasing the number of people biking in Ann Arbor, the city needs to focus on creating continuous routes, connected to each other, to achieve a complete network that is safe and comfortable for people of all ages and abilities. The routes or segments that make up the network may range from local streets with traffic calming, enhanced wayfinding, and design features that improve safety and comfort for people biking, to major streets with physically separated bike lanes. The National Association of City Transportation Officials (NACTO) provides useful resources like the Urban Bikeway Design Guide and Designing for All Ages and Abilities: Contextual Guidance for High-Comfort Bicycle Facilities.

The recommended all ages and abilities network, which was developed based on an analysis of bicycling conditions and feedback from the public, consists of 102 total miles of bike routes across Ann Arbor. Of those 102 total miles, 26 miles (25%) are already in place, 28 miles (27%) of existing bike routes need to be enhanced (e.g., adding a barrier between the bikeway and cars or adding traffic



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calming elements), and 48 miles of new bike routes (48%) are needed. Once completed, 97% of the population would live within a ¼ mile of the all ages and abilities bike network. This network reflects conditions and information available at the time of this plan’s adoption and represents a Master Plan-level evaluation. Prior to implementing individual routes, a corridor-level assessment will be necessary. Additional routes and connections should continue to be considered through the Transportation Commission and pursued as recommended plan amendments when the plan is reviewed or updated.

An important addition to a bike network is a comprehensive wayfinding system to allow people to confidently navigate the bike network. Wayfinding should be installed at predictable intervals along bike routes to help people confirm they are on a designated route and at turns or decision points along the route. Signs should indicate the direction people should follow and the distance to important destinations. Creating a tailored wayfinding system for Ann Arbor’s all ages and abilities bike network, including unique branding and a curated list of local destinations, could further encourage biking.

A comfortable connection between the University of Michigan campuses is also an

important consideration and city staff and the University of Michigan should collaborate to identify and build out a comfortable, all ages and abilities connection.

Timeline



Lead Agency/Stakeholders

- » Engineering
- » Systems Planning
- » Public Works
- » MDOT
- » WATS
- » WBWC
- » Bike Alliance of Washtenaw
- » University of Michigan
- » DDA
- » Parks

Targets

1. Install 5 miles of new or upgraded, all ages and abilities routes each year.
2. Complete the full all ages and abilities bike network by 2035.
3. Implement a complete wayfinding system by 2025.

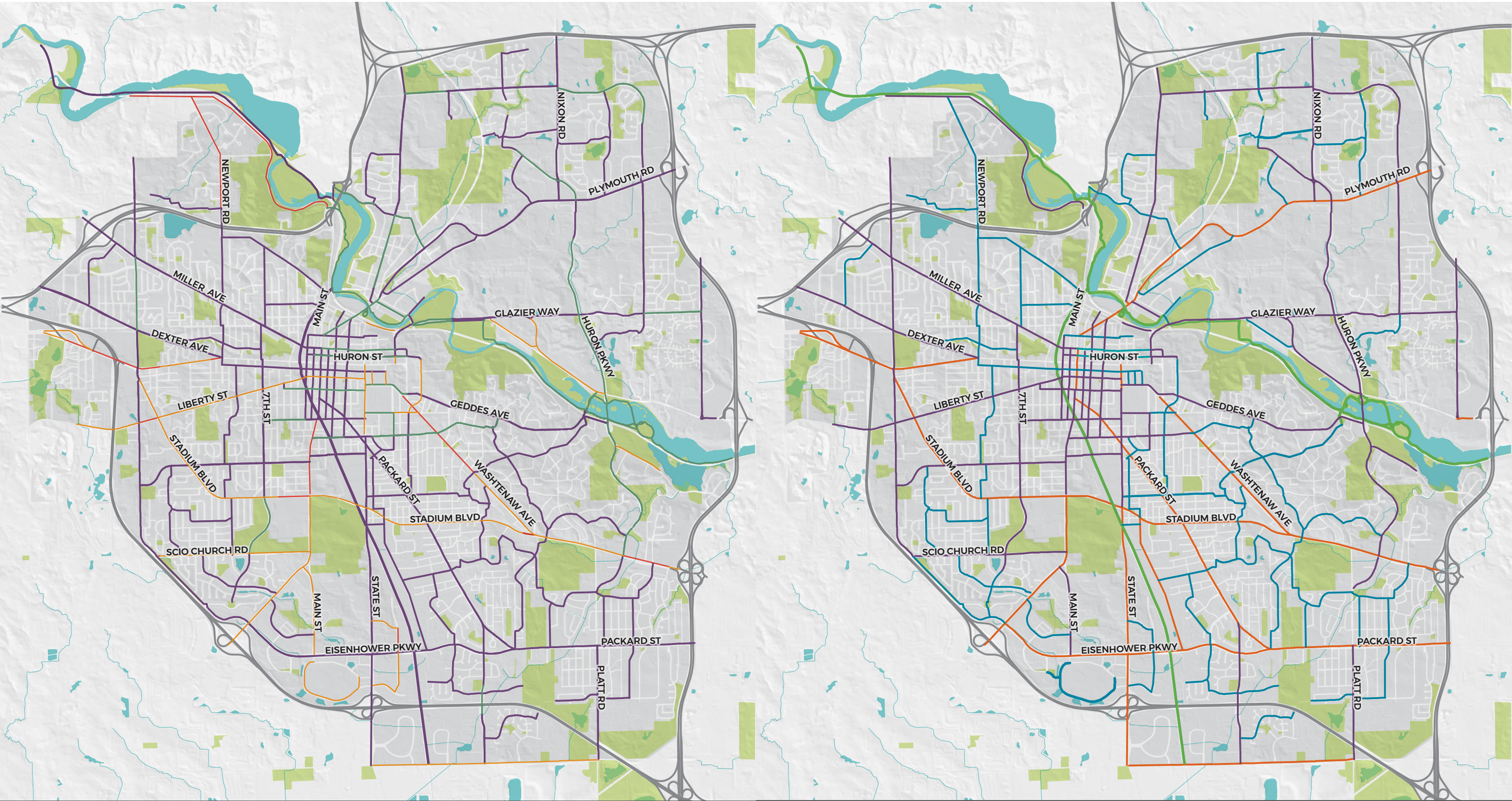


Proposed Bike Network

- Existing All Ages and Abilities Routes
- Proposed All Ages and Abilities Routes
- Existing Routes
- Proposed Routes

Proposed Bike Network by Route Type

- Trail
- Local
- Minor
- Major



Bike Routes

All Ages and Abilities Bike Routes Tools

The toolbox outlined in the following pages includes design strategies to make biking more comfortable and enjoyable considering specific street characteristics. Intersections are also an important component of creating all ages and abilities bike routes and are addressed in Strategy 7.

Tools for Local Streets (25 mph or less AND less than 3,000 vehicles/day)

Bike Boulevard

Bike boulevards are low-volume neighborhood streets that are designed to prioritize travel for people biking and create a comfortable environment for people of all ages and abilities. Four key elements for creating bike boulevards that are safe and easy to navigate are:

1. **Clear signage and markings**, which can include unique branding, that communicate to all street users that they are on a bike boulevard (and indicate that drivers should proceed with caution) and assist people biking with wayfinding.
2. **Design features that discourage vehicular through trips**, such as diverters that are designed to allow bicycles and pedestrians to continue traveling through. For example, they can be installed at intersections to require vehicles to turn left or right rather than continuing straight, helping eliminate cut-through traffic and disrupting lengthy vehicle straightaways that can lead to high speeds. Because traffic is diverted, an assessment of resulting traffic flow may be necessary.
3. **Design features that encourage safe speeds**, like those in the city’s Traffic Calming Program.

4. **Design features that facilitate a clear, comfortable experience** for people biking, particularly measures that enable safe crossings of major streets.

Routes that are longer than one mile, provide an alternative to biking on a major street, and/or connect with other all ages and abilities routes or key destinations are good candidates for bike boulevards.

Suggested Location: Devonshire Road (from Washtenaw Avenue to the Border-to-Border Trail)



Bike Boulevard in Vancouver, Canada
Photo credit: Payton Chung

All Ages and Abilities Bike Routes Tools

Shared Lane Markings

Shared lane markings, also known as sharrows, signify to vehicles and bicyclists that bicycles can share the lane and indicate the proper riding position for people biking. In the downtown and roundabouts, sharrows may be installed in the middle of the travel lane (and no less than 11’ from the curb if on-street parking is present or 4’ from the curb if there is no on-street parking) and accompanied by “Bikes May Use Full Lane” signs. Sharrows can help raise driver awareness of people biking and designate a preferred route for bicyclists.



Bike Routes

All Ages and Abilities Bike Routes Tools

Tools for Minor Streets (25-30 mph AND less than 10,000 vehicles/day)

Striped/ Painted Bike Lane

Striped and painted bicycle lanes demarcate a portion of the street that is specifically designated for people biking. The addition of green paint can draw attention to the bicycle lane or specific conflict points. Because striped/painted bicycle lanes do not provide physical separation between vehicles and people biking, they are most appropriate on streets with low to moderate travel speeds and volumes (ideally 25 mph and less than 5,000 vehicles/day).



Geddes Ave near Gallup Park Pathway

Buffered Bike Lane

Buffered bicycle lanes demarcate buffer space on one or both sides of the bicycle lane to create greater separation between bicyclists and passing vehicles and/or on-street parking. While buffered bicycle lanes provide more separation between people biking and vehicles than standard painted bicycle lanes, they are still most appropriate on streets with low to moderate travel speeds and volumes. On minor streets, buffered bike lanes should be the default choice if space is available.



Maple Road and Haisley Drive, Ann Arbor

Contra-flow Bike Lane

Contra-flow bike lanes provide two-way bicycle travel on one-way streets. Protective elements, such as curbs or flexible delineators, are necessary to ensure oncoming vehicles do not cross over into bicycle lanes. One-way streets with high rates of two-way bicycle flow indicate a need for legalized two-way bicycle travel. Contra-flow bicycle lanes are most

appropriate on streets with very few driveways or other turning conflicts across the bicycle facility. Contra-flow lanes may require bicycle and turn signals.



Chicago, IL



Bike Routes

All Ages and Abilities Bike Routes Tools

Tools for Major Streets

(35 mph or greater OR >10,000 vehicles/day)

Protected Bike Lane

Protected bike lanes, also referred to as cycle tracks, run at street level but are physically separated from vehicular travel lanes. Separation can be achieved through a variety of treatments, including: a) flexible delineators or bollards; b) parking lanes; c) curbs or concrete medians; or d) planters with landscaping. Protected lanes prevent vehicles from entering bicycle facilities. Special attention should be given to designing areas where protected lanes intersect with vehicular or pedestrian traffic and to bus stops where a protected bike lane parallels a bus route. On major streets with significant traffic and transit vehicles, a raised bike lane or off-street path may be preferred for both safety and efficient mobility.



Fourth Street and William Street, Ann Arbor

Raised Bike Lane

Raised bike lanes are located at sidewalk level, vertically separated from vehicular travel lanes. Separation between bicyclists and pedestrians can be achieved through planters or other furniture, hardscape, or landscaping. When raised bike lanes run adjacent to sidewalks, distinct materials or surface colors are used, as well as a buffer, in order to maintain separation between people walking and biking. Paint and signals are implemented at points where vehicular or pedestrian traffic crosses the raised bike lane (intersections, driveways, etc.).

Suggested Location: Plymouth Road (from Murfin Avenue to US-23)



Raised Bike Lane in Denver, CO

Off-Street Shared Use Path

An off-street, shared use path, also referred to as a sidepath, is a bicycle and pedestrian facility that is physically separated from vehicular traffic by an open space or barrier and can be either within the street right-of-way or within an independent right-of-way. Shared use paths are complementary to on-street bike routes and serve an important role in an overall all ages and abilities bike network. In Ann Arbor, the Border to Border Trail serves critical connections within the city as well as regionally.

Off-street shared-use paths work well for corridors not well served by the on-street bikeway network as well as for sections within the network that facilitate long-distance commuting. Off-street paths are also recommended for corridors with high vehicle speeds and/or volumes. On paths with high levels of activity, it may become necessary to provide differentiated spaces for people walking and biking to maintain safety and comfort.

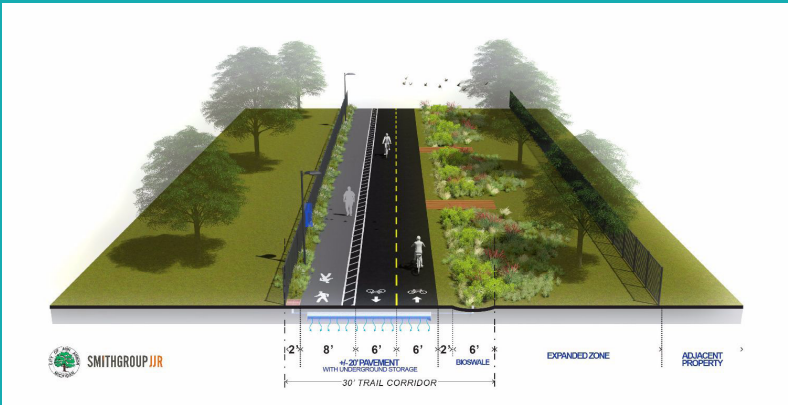


Border to Border Trail

TREELINE URBAN TRAIL

The Treeline Urban Trail will create an important spine in the all ages and abilities bike network, providing a safe and comfortable connection for people walking and biking from many neighborhoods to downtown Ann Arbor and the Huron River. It will make important connections to the broader trail system by connecting to the Border to Border Trail and the Iron Belle Trail. Yet, it is also much more than a simple bike facility. The Treeline Urban Trail will connect many cultural and recreational assets in Ann Arbor and serve as a cultural amenity of its own, bringing with it the potential for economic development along its path.

After decades of research and planning, the Treeline Urban Trail (originally named the Allen Creek Greenway) is moving forward to the land acquisition and trail development phases. A Treeline Urban Trail Master Plan, adopted in 2017, will guide the trail development, with the city working closely with the Treeline Conservancy to bring the trail to fruition.



Trail Design Concept from Treeline Urban Master Plan

7. Intersections for Biking

Make intersections safer and easier to navigate for biking.

Current State

Between 2014 and 2018, 80% of crashes where a person biking was killed or seriously injured occurred at an intersection.¹⁶ Nearly one-third of participants in the Transportation Habits Survey reported they would choose to get around by bike if safety were not an issue, compared to the 11% who currently bike to work or school and 8% who bike for other trips. Making intersections safer and easier to navigate for people biking is essential to making biking more comfortable and attractive, especially to a broader audience including children and older adults.



Protected intersection



Safety



Mobility



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Strategy Description

Step 1: Identify key intersections

The first step in making these improvements is to identify locations where interventions will have the biggest impact on improving the overall bike network, both in terms of safety and connectivity. Key intersections (11 high priority intersections and 68 secondary priority intersections) along the proposed all ages and abilities bike network were identified based on:

1. Safety issues, measured by:
 - » Number and severity of crashes involving people biking
 - » Data on perceived comfort, captured by surveys and other forms of community engagement¹⁷

2. Existing and potential bike volumes:

- » Bike counts
- » Data on locations where people would like to bike, captured through surveys and other forms of community engagement

Step 2: Select countermeasures

Once key intersections have been identified, the next step is to determine the most appropriate countermeasures based on the types of safety issues and specific context of each intersection. Some intersections may require a full reconfiguration to improve safety and navigability for people biking; other intersections may only require simple improvements, like additional pavement markings and signage, that can be added to the existing intersection.

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » Public Works
- » Office of Sustainability & Innovation (OSI)
- » MDOT
- » WATS
- » WBWC
- » University of Michigan
- » DDA

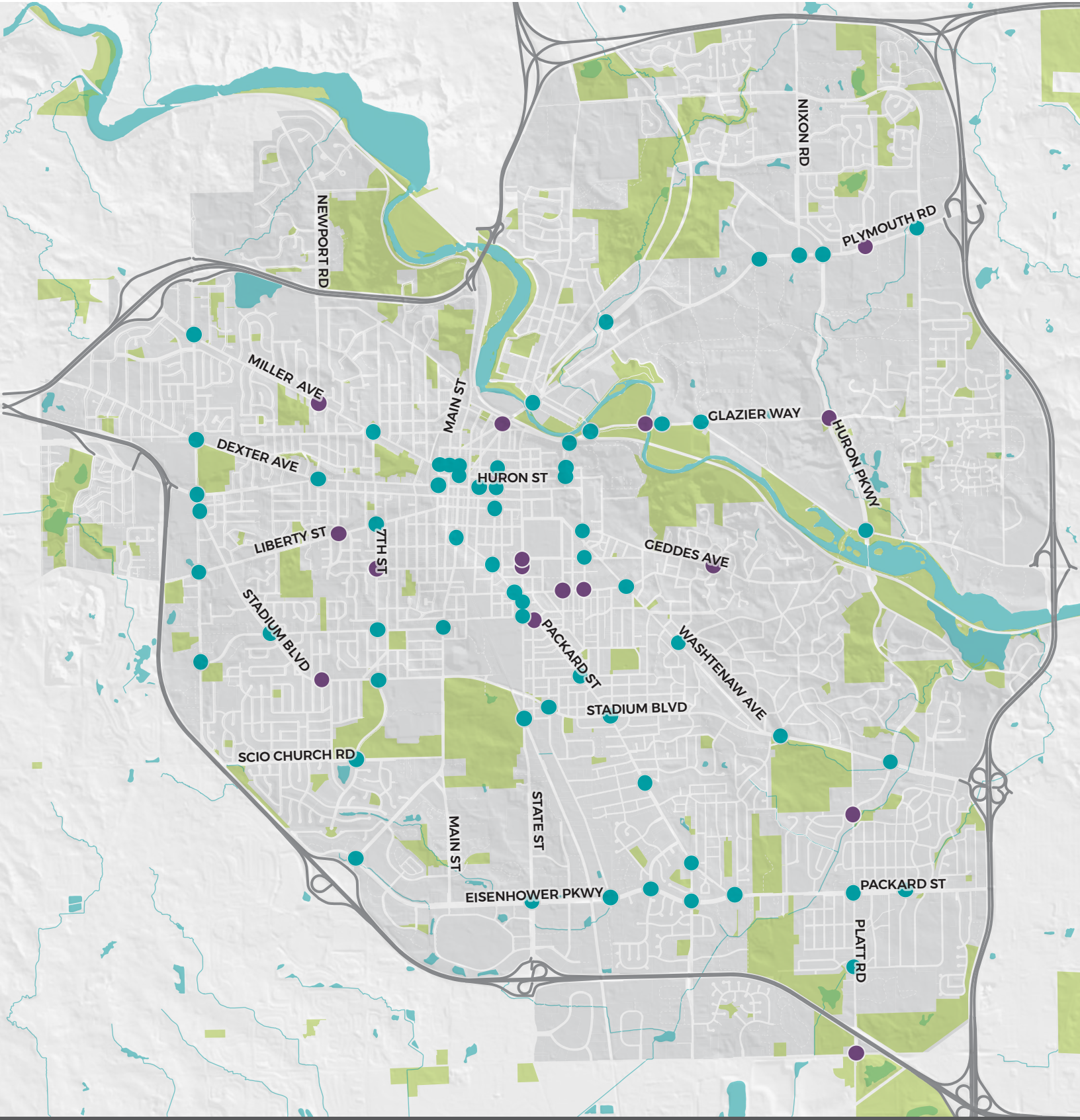
Targets

1. Review safety data **every 2 years** to identify key intersections to be upgraded.
2. Upgrade at least 4 intersections **per year**.



Key Intersections for People Biking

- Signal
- No Signal

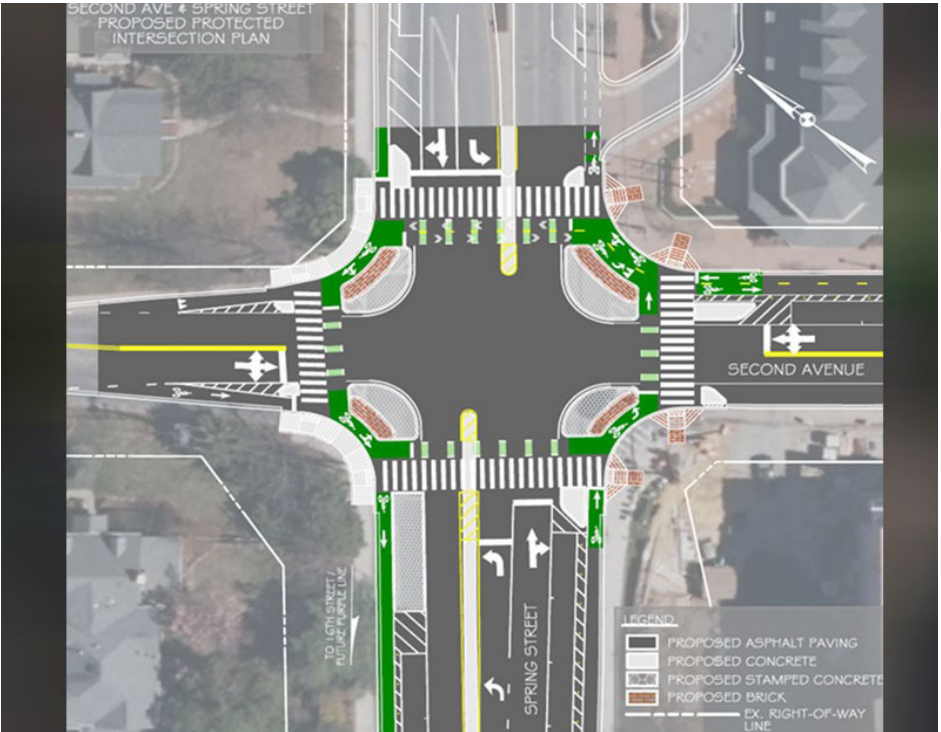


Intersection Biking Tools: Configurations

Intersection Configurations to Prioritize Biking¹⁸

The following intersection configurations combine multiple design tools to make people biking more visible and mitigate unsafe behaviors that lead to crashes, such as reducing turn conflicts by reducing vehicle turning speeds. The appropriate configuration should be determined through the project planning, conceptual design and engineering design phases.

Protected Intersection



- » Bikeway setback
- » Corner islands
- » Bike queue areas
- » Waiting zone
- » Pedestrian islands
- » Bicycle intersection markings

Silver Spring, MD
Source: Montgomery County Division of Transportation Engineering

Purpose

Physically separates bicyclists and motor vehicles up until the intersection; creates shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving.

Recommended Locations

- At major intersections with existing or planned buffered/protected bike lanes, including:
- » Fuller Road & Maiden Lane
 - » Glazier Way & Huron Parkway
 - » Plymouth Road & Nixon Road
 - » Plymouth Road & Huron Parkway



Intersections for Biking

Intersection Biking Tools: Configurations

Dedicated Intersections



San Jose, CA
Photo: Peter Bennett / NACTO

Purpose

Gives people biking a dedicated path through the intersection even where there is not enough space for a full bike setback provided by a protected intersection

Recommended Locations

- At intersections (either with a traffic signal or without) along major or minor streets, including:
- » Division Street & Huron Street
 - » Packard Street & Stadium Boulevard
 - » Ann Street & Glen Avenue
 - » Fuller Street & Depot Avenue
 - » Division Street & Washington Street

Minor Street Crossing



Seattle, WA
Photo: Tom Fucoloro / Seattle Bike Blog

Purpose

Gives everyone — people driving, biking, and walking — a clear indication that bikes and pedestrians have the priority when crossing the minor street

Recommended Locations

- At minor intersections along streets with bike lanes or separated bikeways, including:
- » Geddes Street & Hill Street
 - » Packard Street & Colony Road
 - » Packard Street & Granger Avenue
 - » Division Street & Ann Street
 - » Division Street & Carey Street



Intersections for Biking

Intersection Biking Tools: Countermeasures

Infrastructure Coutermeasures for Biking

The following countermeasures can be added to existing intersections to have the most positive potential benefits for bicyclists’ operations, user comfort, and safety. The appropriate configuration should be determined through the project planning, conceptual design and engineering design phases.

Bicycle Intersection Markings

Description & Purpose

Green pavement markings alongside the pedestrian crosswalk outlining the path for bikes to cross in (includes high-visibility crosswalk markings for bikes called “cross-bikes”).

Tells drivers to expect bicycles and improves the visibility of bicycles that are crossing.



Davis, CA
Photo: City of Davis

Two-Stage Turn Box

Description & Purpose

Green-paved area at corner of intersection.

Designates an area outside of vehicle conflicts for bicyclists to wait for traffic to clear before proceeding in a different direction of travel.



Salt Lake City, UT
Photo: NACTO

Bike Box

Description & Purpose

Green-paved area in front of vehicle stop bar.

Provides space for bicyclists to position themselves in front of vehicles while stopped at a signalized intersection.



Portland, OR
Photo: NACTO

No Turn on Red Sign

Description & Purpose

A sign posted at the signalized intersection for each approach where the restriction is desired.

Eliminates conflicts between turning vehicles and pedestrians and/or bicyclists during a concurrent walk (or bike) signal phase.



Chapel Hill, NC
Photo: Jon Gardiner / UNC-Chapel Hill



Intersections for Biking

Intersection Biking Tools: Countermeasures

Infrastructure Countermeasures for Biking

Curb Radius Reduction

Description & Purpose

Altered geometry at intersection corner.

Reduces turning speeds for vehicles, increases visibility of people crossing, and creates larger waiting areas for people crossing.



Raised Crossing

Description & Purpose

Crossing designed with ramps on each vehicle approach to elevate the entire crosswalk to the level of the sidewalk.

Slows drivers and increases visibility between pedestrians, bicyclists, and drivers.



Street Reconfiguration

Description & Purpose

Reduction of the number and width of lanes on a roadway.

Reduces crossing widths, slows vehicles, and provides space to implement additional pedestrian and bicyclist safety treatments.

Before



After



Intersections for Biking

Signal Phasing Countermeasures for Biking

Leading Bike Interval (LBI) & Lagging Left Turn

Description & Purpose

Similar to an leading pedestrian interval, a leading bike interval gives bikes the green before parallel vehicular traffic, giving them a head start on crossing the intersection and makes them more visible.

These could be used in conjunction with a bicycle detection system.

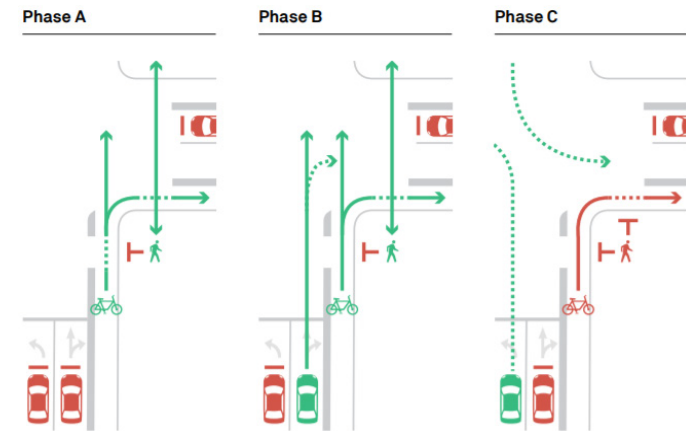


Image credit: NACTO

Bike/Ped-Only Phase (Scramble)

Description & Purpose

Allows only bikes and pedestrians to proceed while all vehicular traffic is stopped.

Option at locations with high bicycle and/or pedestrian volumes to allow more time to move through the intersections, especially if diagonal movements are in high demand.

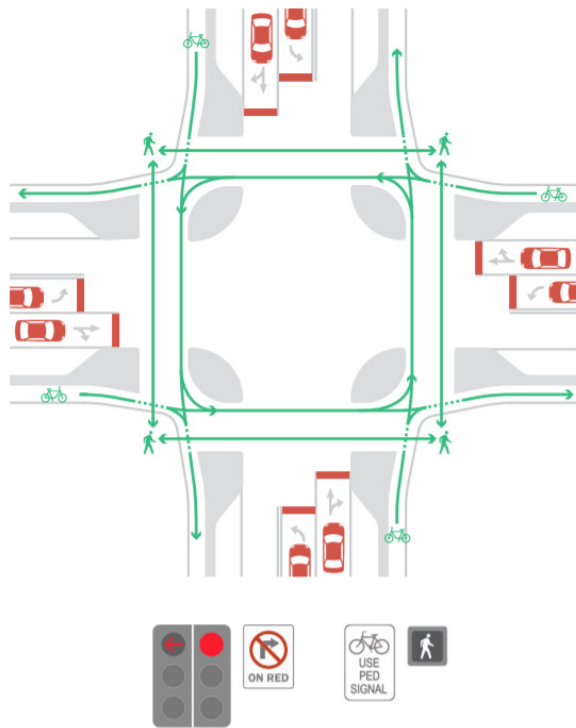


Image credit: NACTO

Protected-Permissive Bike Signal

Description & Purpose

Allows through-moving vehicles to start at the same time as parallel bikes. Bike and pedestrian movements continue as turning vehicles receive a flashing yellow arrow turn phase.

Reduces the number of conflicts per turning vehicle and allows riders to decide for themselves whether it is safe to go during the vehicle phase, or whether to wait for a protected bike phase.

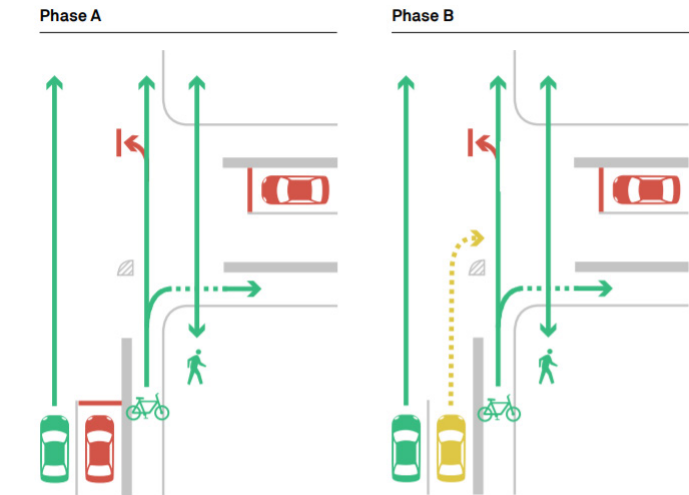


Image credit: NACTO

Protected Bike Signal

Description & Purpose

Fully separate signal phases for bikes and turning vehicles.

Eliminates conflicts with vehicles.

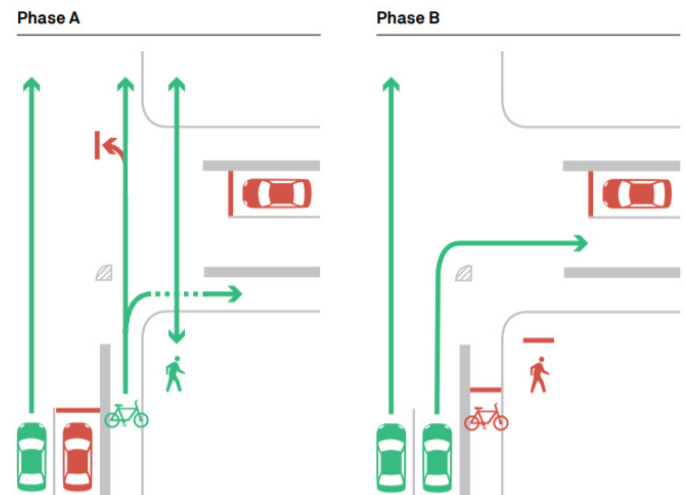


Image credit: NACTO



8. Accessibility

Update the Americans with Disabilities Act (ADA) transition plan.

Current State

The Americans with Disabilities Act of 1990 (ADA) requires local governments to ensure their activities, programs and services are accessible to persons with disabilities. Cities were also required to develop an ADA Transition Plan that describes the structural changes to city facilities.

The city of Ann Arbor’s current Transition Plan was last updated in 2000 and includes a section on transportation facilities including public parking garages, surface parking lots, curb ramps and sidewalks. Most of the needs identified in the document have been addressed, and the city has embraced accessible design on newly-built transportation projects. Since 2000 though, numerous standards, guidelines and specifications for accessible design have been updated, and the courts have indicated that a broader spectrum of facilities (crosswalks, pushbuttons, signal indicators, bus stops, driveway crossings) are subject to accessibility regulations.



Safety



Accessibility
for All

Strategy Description

The city should update its ADA Transition Plan to incorporate new design standards, conduct a self-evaluation of the community and its facilities, and engage with the community around how the city can go beyond just meeting standards and work towards a universally accessible public realm.

The updated plan should re-prioritize remaining actions, identify necessary changes to existing standards and design guidelines, and include a detailed timeline for completing all planned upgrades. The plan should also establish a policy on routinely implementing Accessible Pedestrian Signals (APS) that would identify priority locations where signals should be upgraded with APS as a stand-alone project, in addition to routinely incorporating APS on new and modernized signals.



Crosswalk on Geddes Ave at Gallup Park Pathway



RRFB on Washtnaw Ave near Tappan Middle School

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Planning
- » Engineering
- » Public Works
- » Systems Planning
- » MDOT
- » Commission on Disability Issues

Target

1. Complete self-evaluation and update ADA Transition Plan by 2023.



9. Shared Mobility Options

Partner with mobility service providers to expand shared mobility options in Ann Arbor.

Current State

Owning and operating a vehicle in Michigan is expensive. Ann Arbor residents spend \$8,600 on vehicle costs each year on average.¹⁹ At the same time, getting around the city in a vehicle is not always the easiest, fastest, or most economical option. City residents recently voted overwhelming to increase taxes to support affordable housing, demonstrating strong support to address the cost of living in Ann Arbor. Adding less expensive transportation options supports those efforts.

Many trips in urban areas are short—47% of all trips in urban areas in Michigan are less than three miles—and could easily be completed by walking, biking, or transit.²⁰ If residents had reliable options through a combination of other shared forms of transportation, they could reduce vehicle trips or forego vehicle ownership altogether lowering household transportation costs, increasing opportunities for physical activity, and helping Ann Arbor meet its climate goals.

Strategy Description

Transportation technologies, services, and business models continue to rapidly evolve



Mobility



\$8,600

average annual vehicle cost for Ann Arbor residents



47%

of all trips in urban areas in Michigan are less than three miles

and reshape how people move around urban areas. The combination of new transportation options—from ride-hailing to e-scooters—and the ability to easily compare and choose between different modes using a smart phone can empower people to reduce their reliance on private vehicles and shift towards shared mobility options, including our existing transit system.



Healthy People & Sustainable Places

By providing a variety of different shared mobility options that complement TheRide and making it seamless for users to choose between different options, residents will have the freedom to choose the mode of transportation that is best for their trip, their health, their environment, and their wallet. The city should also serve as a partner to regional agencies and explore regional opportunities for shared mobility programs.

Bike Share

Bike share has become an increasingly common and popular way to get around in cities of all sizes. At the beginning of the last decade, people across the U.S. took just over 300,000 trips via bike share. By 2019, the number of bike share trips increased 148 times to more than 47.5 million, and users took 136

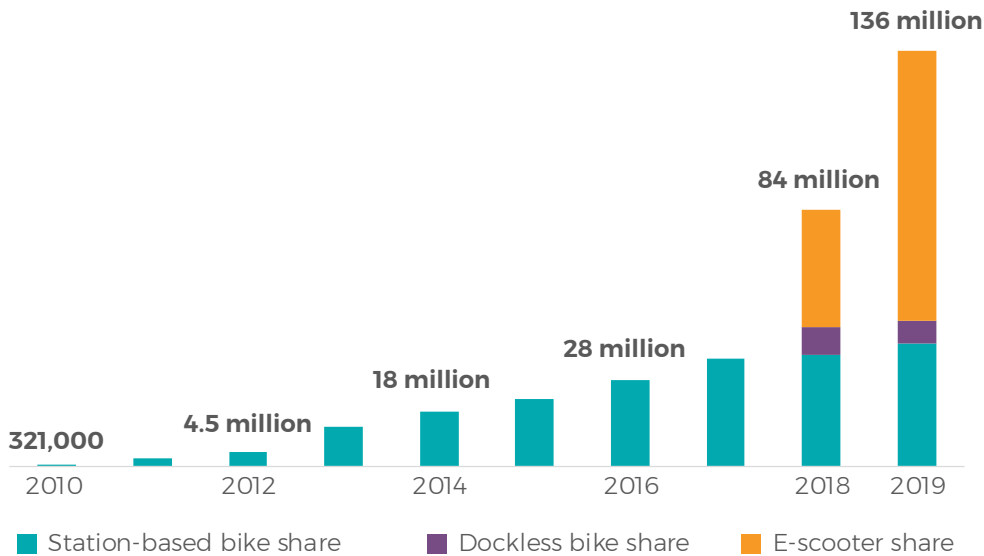


Regional Connectivity

million trips on shared bikes and scooters across the country.²¹ Bike share gives people a healthy, affordable option for making short trips and can expand the reach of transit service. Cities with bike share also see increases in overall levels of biking and transit use.²²

Between the University of Michigan, high levels of activity downtown, and more trails and bike lanes around the city, bike share has the potential to be an attractive and well-used transportation option in Ann Arbor. For bike share to succeed, though, there needs to be a dense network of stations and/or bikes readily available. When users have to walk more than five minutes to find a station or bike, ridership tends to suffer.²³ Re-launching and expanding ArborBike or introducing a new bike share service with enough coverage to

Growth in Shared Bike and Scooter Trips Across the U.S.



424 X

increase in shared bike and scooter trips across the U.S. over the last decade



Shared Mobility Options

create a convenient option for getting around the entire city will enable residents, students, workers, and visitors to make more trips via bike.

Shared Electric Scooters (e-scooters)

Since the fall of 2018, shared e-scooters have been available for rent around Ann Arbor. The city launched a dedicated partnership with Spin in 2019, which has been extended through summer of 2021. Shared scooters offer the potential to expand the utility of our existing transit and active transportation networks and replace some short vehicle trips. They also present potential challenges, including user and public safety, accessible and appropriate use of the right-of-way, equity considerations, and requirements upon the City to manage negative impacts.

Within the next year the city should evaluate the results of the scooter pilot to-date, analyzing available data and gathering broad community feedback, and recommend whether to significantly expand the number of scooters in Ann Arbor. The city should also work with Spin to expand the number of parking/charging hubs across the city and evaluate incorporating scooter parking in mobility hubs located at key transit locations (see Strategy 12).

Car Share

Car share gives users the ability to easily rent a car on demand for short errands or longer

trips and forgo the expense of car ownership. Zipcar currently has 21 locations and 30 vehicles in Ann Arbor—mainly centered around downtown and North Campus—and two out of five residents live within a 10-minute walk of these locations.²⁴

Using city-owned property, partnering with private property owners, and adopting incentives that encourage replacing traditional parking with car share locations will help expand this service to the entire city, with the goal of every resident being within a 10-minute walk of car share. Incorporating car sharing into mobility hubs at key transit locations (see Strategy 12) and supporting the operation of peer-to-peer car share services—where individuals can make their personal car available for rent through a third party like Turo or Getaround—will further expand access and convenience for people in Ann Arbor.

Piloting First/Last Mile Solutions across the Region

Making it easier for people across the region to access transit and commute into the city using TheRide will reduce congestion and emissions in Ann Arbor. Ann Arbor is committed to supporting TheRide and surrounding communities in testing innovative strategies and partnerships that make it easier for people to get to and choose to use transit, such as discounted ride-hail trips that start or end at transit stations.

Climate Impact from Shared Mobility



500

shared bikes



500

shared e-scooters



250

car share vehicles



estimated reduction in VMT and carbon emissions from potential increase in shared mobility options in Ann Arbor

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » DDA
- » AAATA
- » Systems Planning
- » OSI
- » University of Michigan
- » Private mobility service providers

Targets

1. Re-launch bike share by 2022.
2. Evaluate shared electric scooter pilot and make recommendation on future expansion by 2022.
3. Expand bike share citywide by 2024.
4. Expand car share so that every Ann Arbor resident lives within a 10-minute walk of car share by 2026.



10. Improve Transit Service

Continue increasing transit service to improve frequency and consistency.

Current State

TheRide, the city of Ann Arbor, and residents have invested significant resources over the past decade to expand transit service across the city and connect to neighboring communities. TheRide offered 42% more hours of service in 2017 than in 2013.²⁵ Currently two routes in Ann Arbor—Route 62: UM-State and Route 4: Washtenaw—offer high-frequency service during peak periods, where buses come every 15 minutes or fewer (effective frequencies along other corridors may be higher than scheduled frequencies due to overlapping routes).



Mobility



Accessibility for All

Many of TheRide’s routes outside of the downtown area have a scheduled service frequency of 30 minutes during both peak and off-peak periods. Most routes begin running between 6 a.m. – 7 a.m. and the last bus services depart between 10:30 p.m. – 11:30 p.m. on weekdays. Service frequency on some routes decreases to every hour during weekday evenings beginning at 7 p.m., while some routes have no available evening services. On weekends, frequency falls to every 30 minutes to an hour on most routes.

The 2009 City of Ann Arbor Transportation Master Plan Update, identified signature service corridors, where overlapping routes create high capacity and frequent service, offering a higher level of service than one individual route. The signature service corridors

Signature Transit Corridor	Weekday Peak	Weekday Midday	Saturday
State Street	15 Minutes or Better	15 Minutes or Better	> 15 Minutes
Fuller Road/Plymouth Road	15 Minutes or Better	15 Minutes or Better	> 15 Minutes
Washtenaw Avenue	15 Minutes or Better	15 Minutes or Better	> 15 Minutes
Jackson Avenue/Huron Street	> 15 Minutes	> 15 Minutes	> 15 Minutes

Secondary Transit Corridor	Weekday Peak	Weekday Midday	Saturday
Packard Street	30 minutes or better	30 minutes or better	> 30 Minutes
Miller Avenue	30 minutes or better	30 minutes or better	> 30 Minutes
South Main Street	30 minutes or better	30 minutes or better	30 minutes or better



Regional Connectivity

created a network, including east-west and north-south corridors. The remaining corridors with transit service (Main Street, Miller Avenue, and Packard Street) make up the secondary corridors.

Strategy Description

When buses come more frequently it reduces the amount of time customers spend waiting, makes connections between different routes easier, and creates a more useful and reliable transit system. Between the city’s largest student population and inflow of commuting workers, there is a significant need for greater all-day frequency and a consideration of longer spans

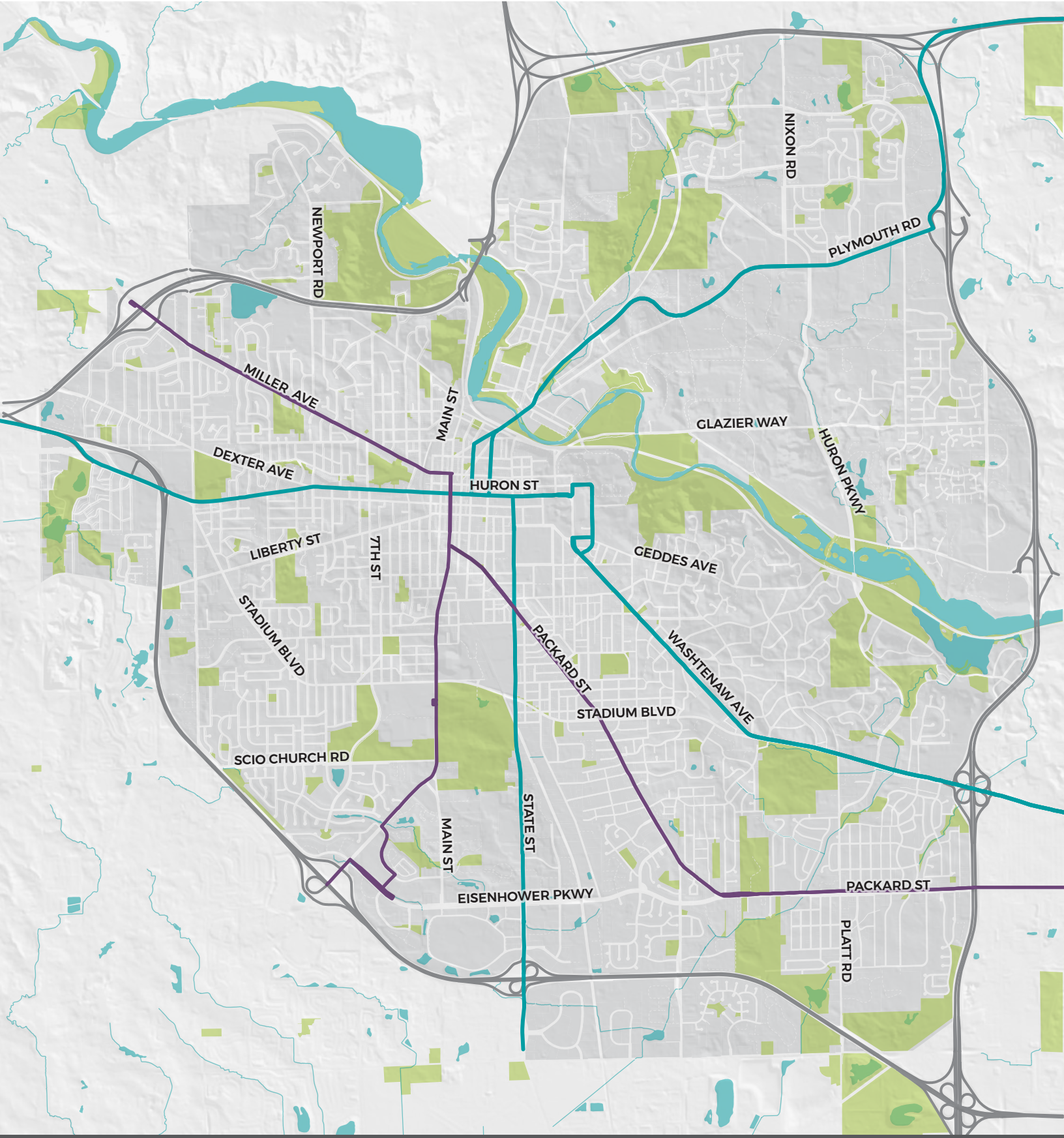
of service on signature transit corridors. The city should work with TheRide and University of Michigan to ensure that there is a minimum effective frequency of one bus every 15 minutes throughout the day (including off-peak times) on both weekdays and Saturdays along the Signature Service Corridors when demand dictates—creating four all-day, high-frequency transit routes.

The city and TheRide should also work to reach a minimum effective frequency of one bus every 30 minutes along secondary corridors throughout the day on weekdays and Saturdays.



Transit Corridors

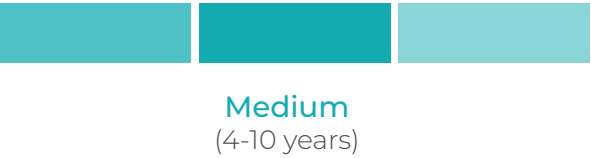
- Signature Transit Corridor
- Secondary Transit Corridor



Achieving these metrics would require increasing weekday service on Route 30, Jackson-Dexter, and increasing Saturday service levels along all corridors except South Main Street, which includes Routes 24 and 25.

These increases in service levels would be complemented on these routes by also extending the service span into later hours and ensuring that Sunday and holiday service is offered, making transit a reliable travel option throughout the week.

Timeline



Lead Agency/Stakeholders

- » AAATA
- » University of Michigan
- » Engineering
- » Systems Planning
- » OSI
- » DDA

Targets

1. Achieve 15-minute effective frequency throughout the day on Huron Street by 2023.
2. Achieve 30-minute effective frequency throughout the day on secondary corridors by 2030.

THE CONNECTOR

Over the past decade, the City of Ann Arbor partnered with the University of Michigan, TheRide, and the Ann Arbor DDA to study a potential investment in a high-capacity transit corridor to connect downtown with the University campuses and park-and-ride facilities at the edges of the City. During peak times of the semester, this highly congested corridor currently sees more than 30,000 daily trips on buses, making it the busiest public transit corridor in the State of Michigan.

The resulting concept for an Ann Arbor Connector (a rapid transit line operating in a dedicated right-of-way) has the potential to significantly increase efficiency compared to the current public transit services, and would also make transit the most attractive and reliable option for short trips in the core of the City.

Additionally, by extending to the outer edges of the City, the Connector could become a key part of the solution for reducing vehicular traffic into the core, by facilitating convenient and timely connections into Ann Arbor's busiest core areas from other services and satellite park-and-ride locations.

While funding constraints have limited progress on the next steps, the need for more efficient and reliable transit operations has only continued to grow. Each of the project partners remain committed to the Connector's concept of improving transit capacity and reliability along the Plymouth, Fuller and State corridors.

11. Transit Reliability

Prioritize transit reliability and speed along signature service corridors and at key locations.

Current State

Ann Arbor features two significant transit systems (TheRide and University of Michigan's Blue Buses) that provide service to most areas of the city. Together TheRide and University of Michigan provided nearly 15 million (14,835,914) passenger trips in 2018. Many of these trips converge on the core areas of downtown and the campuses, where the greatest challenge becomes the speed and reliability of buses, particularly during the morning and evening rush hours. For the final three months of 2019, only 72% of TheRide's passengers were on-time.²⁶

Strategy Description

Making buses more efficient and enabling more reliable service will help to increase transit ridership in Ann Arbor, thereby reducing the number of vehicles on the road and resulting congestion and delay. These improvements should be targeted on the city's signature service corridors (Washtenaw, Plymouth-Fuller, State, and Jackson) and in locations where service converges and is often impacted by traffic or operational delays (e.g., downtown near the Blake Transit Center and around the Central Campus Transit Center).



Mobility

Community engagement during this planning process also indicated strong support for prioritizing transit as the major travel mode along corridors such as Washtenaw Avenue, Plymouth Road and Fuller Road. Strategies to improve transit efficiency can offset efforts to slow vehicle speeds along a corridor to improve safety.

Increasing transit speed and reliability will require changes to infrastructure (e.g., bus-only lanes, intersection queue jumps, raised boarding platforms) that speed up bus service and enhancements to signal technology (e.g., transit-signal priority) that help prioritize transit service.

Infrastructure changes can be phased, beginning with the highest priority locations and then measuring impacts to refine and/or expand improvements. These measures should be prioritized where transit reliability is low and along with other focus corridor, focus intersection projects, bike route installations, or special projects such as Major Street Traffic Calming.

Transit-Signal Prioritization

The city should collaborate with AAATA, the University of Michigan and MDOT on the development of software and communications



Healthy People & Sustainable Places

systems that would allow for the implementation of transit-signal prioritization (TSP) along key corridors. Transit signal priority uses these software and communications systems to advance or extend the green light at a traffic signal for upcoming buses, reducing travel times and improving reliability. With the advent of connected infrastructure and signal systems, TSP could be implemented through a combination of on-vehicle devices that can track bus locations and adaptive traffic signals that can adjust signal timing as vehicles approach. Initial investment in development of the back-end technologies and processes along key corridors such as Plymouth Road or Washtenaw Avenue would allow for these systems to be considered on a more city-wide scale in the future.

Bus-Priority Treatments

Based on current operational and congestion data, the initial target for bus-priority treatments (including bus-only lanes and queue jumps) should be downtown, especially on Fourth and Fifth Streets accessing the Blake Transit Center. A pilot to test bus-only lanes could focus on a single block or short segments in the downtown.

More reliable east-west connections through the downtown and connecting to campus areas are also a need, with a focus on the Washington



Regional Connectivity

Street corridor as a potential transit-priority street (as designated within the DDA's downtown street framework plan). Outside of the downtown, queue jumps should be implemented on signature transit corridors, particularly at key intersections on Washtenaw Avenue, Plymouth Road, and South State Street (see concept designs in Section 5).

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » AAATA
- » UM
- » Engineering
- » DDA
- » Public Works
- » Systems Planning
- » OSI

Targets

1. Implement transit-priority treatments on Washtenaw Avenue and Plymouth Road/ Fuller Road by 2025.
2. Pilot a bus-only lane downtown by 2023.



12. Transit Access

Improve multimodal access to transit stops.

Current State

The vast majority (89%) of transit riders in Ann Arbor walk to their bus stop, but for those who live further from the bus, figuring out how to get to transit can be difficult and dissuade potential users from choosing transit. The city has also been working with TheRide to upgrade stops to meet Americans with Disabilities Act (ADA) standards; 89% of AAATA stops in the city currently meet ADA standards. However, only 12% of bus stops currently have a transit shelter, and only 65% have lighting.²⁷



Mobility



Accessibility for All



Healthy People & Sustainable Places



Regional Connectivity

These amenities contribute to transit riders' safety and comfort as they access and wait at bus stops, which contributes to how willing or likely someone is to use transit.

Strategy Description

Designing transit stops for universal accessibility, including by those with mobility challenges and disabilities, benefits all users. Providing additional amenities for transit users and integrating shared mobility options into transit centers and key stops will improve access to transit, create a seamless, easier to use system, and encourage ridership. The city should work with AAATA to ensure that 100% of transit stops are ADA-compliant.

Fare integration

As a customer, having to use different payment methods and incurring additional charges for each type of use is a disincentive to linking different modes of transportation. Integrating transit fare payment and trip planning with additional shared mobility options in a single user platform removes the burden of having to figure out how to pay for additional services and makes all services more accessible.

Mobility hubs

Similarly, the ease of having different services geographically linked makes transfers between services easier. Mobility hubs integrate shared mobility options like bike share stations, e-scooter parking/charging, and car share along with short- and long-term bike parking, designated pick-up and drop-off locations, payment kiosks, and enhanced wayfinding. Mobility hubs can also incorporate additional community amenities like electric vehicle charging, public gathering space, package storage areas, and complimentary retail. The city should establish mobility hubs at transit centers and key transit stops. Priority locations for mobility hubs include:

- » Blake and UM Central Campus Transit Centers
- » Nixon Road, north of Plymouth Road
- » Pittsfield Boulevard, near Arborland Mall

Timeline



Medium
(4-10 years)

Lead Agency/Stakeholders

- » AAATA
- » University of Michigan
- » Engineering
- » Systems Planning
- » OSI
- » Regional Transit Authority of Southeast Michigan (RTA)
- » Private mobility service providers

Targets

1. 100% of bus stops meet ADA standards by 2030.
2. Upgrade amenities at all stops on one signature service corridor by 2025 and all signature service corridors by 2030.
3. Establish 1 mobility hub by 2023.
4. Create 3 additional mobility hubs by 2030.



Blake Transit Center



13. Commuter Transit

Expand commuter-oriented transit services.

Current State

More than 100,000 people commute into or out of Ann Arbor every weekday.²⁸ Most of these commute trips are more than 10 miles, meaning that walking or biking are not viable options for most people,²⁹ leaving limited options for getting to work besides driving. Expanding options to driving for these commute trips is critical to reaching the bold goals set forth in this plan.

A number of TheRide’s routes connect Ann Arbor to Ypsilanti; however, there are only a handful of commuter bus services operated by TheRide connecting with other cities in the region like Canton, Chelsea, and Detroit.

In addition to TheRide’s services, the Regional Transit Authority (RTA) of Southeast Michigan manages and coordinates regional transportation in Ann Arbor and Detroit. The RTA initiated a pilot express bus service, the D2A2, to provide hourly transit service between Detroit and Ann Arbor. The pilot has been temporarily suspended due to COVID-19.

Data on commuting patterns indicate that commuting trips into Ann Arbor come from all directions, but that the greatest concentration



Mobility



Regional Connectivity

(63%) is from points to the east, including from eastern Washtenaw County.³⁰

Strategy Description

The city should continue to partner with TheRide, the RTA, MDOT, and other potential service providers to expand the amount and efficiency of transit services into the core areas of the city. Specific initiatives for the city and partners to include:

- » Support the RTA as a coordinator and planning agency of regional transit to push transit issues that impact the region overall.
- » Regular express-bus services from key origin points directly into the core areas of the downtown and campus. These services should focus on areas along the I-94, M-14, and US-23 corridors.
- » Engage MDOT to integrate priority measures for transit or other shared-mobility modes (e.g., high-occupancy vehicle lanes or shoulder-running transit lanes) as part of any future freeway corridor reinvestments.
- » Develop/expand convenient park-and-ride lots at interchanges outside the city limits, in coordination with MDOT.
- » Expand park and ride lots along highly-served transit corridors within the city, coupled with financial incentives to use transit or disincentives (such as parking pricing within the city).

- » Continued support and expansion of existing regional bus service such as AirRide and A2D2.
- » Continued planning for regional rail services operating along the existing Amtrak line connecting Ann Arbor to Detroit and Pontiac.

Timeline



Lead Agency/Stakeholders

- » AAATA
- » RTA
- » University of Michigan
- » MDOT
- » Engineering
- » OSI
- » Systems Planning
- » Livingston Essential Transportation Services (LETS)

Targets

1. Increase share of people commuting into Ann Arbor on transit to 20% by 2030.
2. Expand spaces at park and ride lots to more than 10,000 by 2030.

ANN ARBOR STATION

As outlined in the 2009 Transportation Master Plan, the city has undergone an in-depth planning process to review and plan for a new or enhanced railroad passenger station/intermodal facility in the City of Ann Arbor.

Ann Arbor boasts the busiest Amtrak station in the state of Michigan, serving the Wolverine Line, which runs from Pontiac through Detroit to Chicago.

In addition to directly serving passengers, the train station acts as an important gateway to Ann Arbor, giving visitors their first impression of the city, and presents an opportunity for economic development in the vicinity of the station and a potential source of job growth in the city and the region, as the rail service presents another commuting option.

In June 2019, the city completed a comprehensive planning and review process to analyze alternatives and come to a preferred alternative, in compliance with the National Environmental Policy Act (NEPA). Next steps for this project are pending federal review of the Environmental Assessment (EA), as the culmination of the NEPA process.

14. Fares

Provide reduced fares for transit and shared mobility services for qualified users.

Current State

Over 40% of AAATA riders make less than \$25,000 per year, and around 30% of riders use cash to pay their fare.³¹ Providing affordable mobility options for those with financial barriers enables them to access opportunities and benefits us all by creating a more inclusive and resilient economy.

Currently, AAATA offers 50% discounted fares to low-income riders through its Fare Deal low income program. The program requires riders to show bus operators an agency-issued photo ID card upon boarding in order to receive the discount.

Spin, the provider of shared e-scooters in Ann Arbor, also provides reduced ride rates for those with limited incomes through its Spin Access program.



Mobility



Accessibility
for All

Strategy Description

AAATA is ahead of its peers when it comes to low-income fare discounts and Fare Deal program. One result of AAATA's recent fare study is the recommendation to shift enforcement for reduced fare programs offboard by determining eligibility at the time of purchase and not at the time of boarding.³² This change, best accomplished by using an account-based smart card system, would speed up boarding, simplify the administration of discounts, and eliminate any stigma associated with having to present an ID. Enabling users to submit applications online or via mail (rather than requiring them to submit applications in-person) would also streamline the process for qualified users. Furthermore, TheRide could deepen its discounts through this mechanism.

When bike share re-launches in Ann Arbor, the program should include similar discounts for qualified users. One option to improve the customer experience for all users and simplify the administration of discount programs would be to integrate bike share payments with TheRide's fare system. Allowing users to rent bikes and pay for transit with a single smart card would encourage usage. With an integrated payment system between bike share and transit, 'transfer fees' between bike

share and transit could be waived and existing discount programs could be expanded to include bike share.

Ensuring the affordability of ride-hailing (Uber, Lyft, taxis, etc.) for qualified users is more complex. Some transit agencies around the country do this by subsidizing first-mile/last-mile trips to and from transit or by integrating ride-hailing into on-demand services provided by the transit agency. The city should support TheRide in evaluating and testing similar programs.

Furthermore, Ann Arbor could adopt car-sharing programs that are specifically integrated with low-income housing in partnership. Companies such as Sway and Envoy focus specifically on carshare at low-income housing developments.

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » AAATA
- » Mobility Service Providers
- » Engineering
- » Systems Planning
- » OSI
- » DDA
- » University of Michigan

Targets

1. Revise enforcement/payment structure by 2023.
2. Match bikeshare discounts to scooter and/or transit discounts.



15. Pricing

Vehicle Trips

Price trips according to their impact on the city.

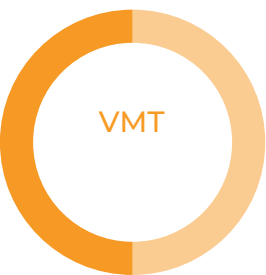
Current State

On an average weekday, more than 80,000 people commute into Ann Arbor, creating an influx of cars on the city's major corridors during the morning and evening rush hours. Nearly all the delay drivers experience in Ann Arbor (94%) occurs during these peak times.^{33,34} Half of all the miles driven on our streets are concentrated in these five hours (7-9 AM and 3-6 PM).

Projections indicate that a greater share of Washtenaw County's jobs will be concentrated in Ann Arbor in 2040, but a smaller share of households will live in the city than today.³⁵ Ann Arbor has neither the space nor desire to expand its roads. Without taking action to manage demand and encourage alternative modes of transportation, congestion—and the emissions, air pollution, traffic crashes, and lost productivity it entails—will only worsen over the next 20 years.



Healthy People & Sustainable Places

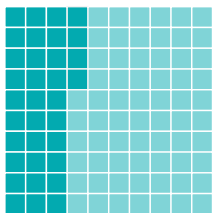


50% of the miles driven in the city and **94%** of the delay drivers experience are during morning and evening rush hours

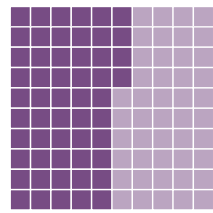


Today

34% of households in Washtenaw County live in Ann Arbor

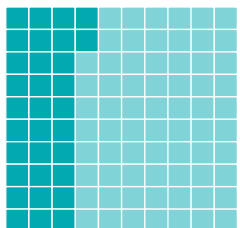


54% of jobs in Washtenaw County are in Ann Arbor

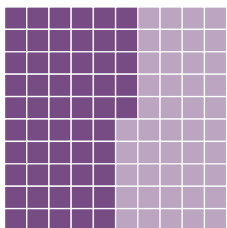


2040

32% of households in Washtenaw County will live in Ann Arbor



55% of jobs in Washtenaw County will be in Ann Arbor



Safety



Mobility

Strategy Description

Cost is a critical factor in people's daily choices about how to get into and around Ann Arbor. Cities around the world and in the U.S. use a variety of tools to better align the price of vehicle trips with their societal costs and adjust pricing based on demand. Pricing trips by carbon-producing vehicles is the most direct way to reduce these trips and their negative impacts, which aligns with the city's commitment to carbon neutrality.

Parking pricing

The cost of parking is often the only immediate cost drivers face on any given trip and is a readily available tool for managing demand. Varying the price of parking based on the time of day, day of the week, and/or by location can encourage drivers to take transit, carpool, walk, or bike and can shift driving trips to times when demand, and thus prices, are lower. Leveraging data and smart meter technology to calibrate parking pricing also supports local businesses by increasing turnover, which can mean more customers. To limit the impact that parking pricing can have on populations who may not have alternatives to driving, the price of parking can also be tiered so low-income residents, people with disabilities, or other groups pay lower rates. Rates could also be tiered to give discounts to people using electric vehicles.

The city should pilot demand-based, tiered parking rates in a select area of downtown and evaluate the results to understand how pricing changes impact user behavior locally. This should then inform an expansion of the program to all city-owned parking.

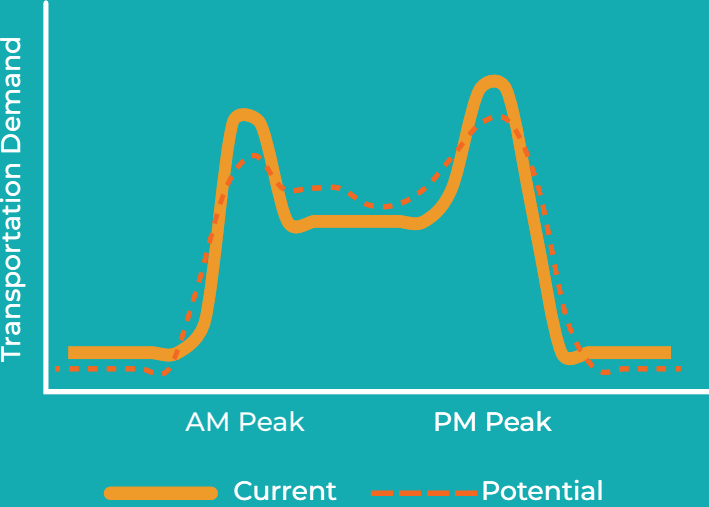
Road user pricing

Road user pricing can come in many different forms but involves charging users a price to drive on a road, use a specific lane, or drive into a certain area. Establishing a price for driving—especially when based on demand so that the more congested a road becomes, the higher the price to use it—can encourage people to shift driving trips to less busy times of day, combine trips, carpool, or use alternative modes of transportation. Road user pricing strategies can be tailored so that certain types of vehicles or segments of the population pay lower fees or are exempt.

Ann Arbor should study how road pricing tools can be used to reduce congestion and vehicle emissions. These decisions will require detailed evaluation of the potential impacts; engagement with residents, workers, students, and businesses; and a transparent process that ensures equitable outcomes.



What is demand-based pricing?



Demand-based pricing seeks to tie the price of a good to consumer demand for that good.

When demand is high, the price increases. When demand is low, the price decreases.

Demand-based pricing is particularly useful when supply is fixed. If we can't simply produce more of the good when demand is high, pricing can be used to help ensure the supply isn't depleted.

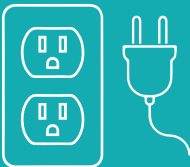
The supply of road space in Ann Arbor is effectively fixed; we can't widen our streets during rush hour then shrink them for the rest of the day.

Charging users to drive on busy roads or pay more to park when demand is high could motivate enough people to shift vehicle trips to less busy times of day or choose a different mode of transportation to significantly reduce congestion and emissions.

There are many examples of demand-based pricing we experience on a daily basis.



Airlines charge more for plane tickets around holidays.



Electricity rates are higher in the evening when most people are home.

Ride-hail pricing

Ride-hailing (e.g., Uber and Lyft) is an increasingly popular transportation option in Ann Arbor, and while these services offer users the convenience of on-demand mobility and may enable people to reduce their reliance on private cars, there is significant evidence that these services divert riders away from public transportation, increase congestion, and lead to more emissions.

To better account for ride-hailing's negative impacts, U.S. cities are adopting ride-hailing fee structures that incentivize users to share trips and use public transportation in areas that are well-served. In Chicago, solo ride-hailing trips include a \$1.25 fee and an additional \$1.75 fee for trips that start or end in downtown. Shared trips have a lower fee of

\$0.65, and the surcharge for trips beginning or ending downtown is also lower at \$.65. Fees are reduced for wheelchair-accessible vehicles, and a portion of all the ride-hailing fees is allocated to an Accessibility Fund, which incentivizes taxi and ride-hail drivers to invest in wheelchair accessible vehicles.³⁶

In 2016, Michigan's Transportation Network Company Act pre-empted local governments' authority to regulate ride-hailing within their boundaries and transferred oversight to the state Department of Licensing and Regulatory Affairs.³⁷ Adopting a ride-hailing fee in Ann Arbor would require changes to this legislation and the City should coordinate efforts with other Michigan cities to advocate for more local authority to regulate ride-hailing services within municipal boundaries.

Timeline



Lead Agency/Stakeholders

- » DDA
- » Engineering
- » OSI
- » MDOT
- » WATS
- » SEMCOG
- » RTA
- » LARA
- » State Representatives

Targets

1. Pilot demand-based, tiered parking rates in a select area of downtown by 2022.
2. Expand demand-based, tiered parking rates to all on-street parking and City-owned facilities by 2023.
3. Complete a road user pricing study by 2024.



16. Managing Demand

Develop a citywide transportation demand management (TDM) strategy.

Current State

As noted in other strategies, Ann Arbor's strong job market places significant demands on the city's streets and transportation system — especially at the busiest times of day. Transportation demand management (TDM) is a concept that aims to reduce congestion by providing people more choices for when and how they commute.

TheRide, the DDA, AA Chamber of Commerce and the city of Ann Arbor partnered to launch the getDowntown program in 1999. The getDowntown program provides commuting programs and services to workers and businesses within the DDA boundary. Key to the program's success is its go!pass offering, which entitles downtown employees to free rides on all AAATA fixed route services as well as discounts on commuter services (like the ExpressRide from Canton, Chelsea, and Ypsilanti). The getDowntown program typically distributes around 5,000 go!passes to employees at more than 400 downtown businesses each year. By helping more commuters choose transit, the getDowntown program has helped avert the need to construct more than 1,200 additional parking



Mobility

spaces downtown — freeing up approximately five acres of land for alternative uses and saving nearly \$30 million in construction costs.³⁸

However, because of the current getDowntown program's geographic boundaries, major employers outside of downtown, like those around Eisenhower Parkway and State Street, are currently ineligible. With 86% of the jobs in Ann Arbor being located outside the DDA boundary, there is an opportunity to expand the existing TDM program to reduce the strain on the transportation system during commuting hours.³⁹

Strategy Description

The city and TheRide should work together to establish a citywide TDM program, expanding benefits like free transit passes and commuter services to a larger share of workers across Ann Arbor. As an example, when the Google Ann Arbor corporate office relocated from downtown to a location off Traverwood Drive, the employer wanted to continue offering a transit benefit to employees, leading to a "pilot contract" between TheRide and Google to offer a MyCommuter Card.⁴⁰ Google pays a flat rate of \$1.50 per swipe to TheRide, who supplies Google with the passes. This model could be applied to other major employers outside the DDA boundary. Additional considerations include staggering work hours, providing a



Healthy People & Sustainable Places

parking "cash-out" option to employees who do not park, and encouraging biking through tax deductions for bike-related purchases and services.

TDM strategies that seek to limit private vehicle usage must be balanced by measures that provide comparable level of service through alternate modes. Therefore, implementing complementary strategies from this plan that seek to improve mobility through transit, biking, and walking are critical to the success of a TDM program.



Regional Connectivity

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » AAATA
- » AA Chamber of Commerce
- » University of Michigan
- » Planning
- » Engineering
- » DDA
- » Systems Planning
- » SPARK
- » OSI

Target

1. Double the number of employer-subsidized transit passes distributed by 2030.



17. Parking

Implement new policies to better align parking supply and demand.

Current State

The city primarily influences parking supply through regulations included in the Unified Development Code that establish parking requirements for different zoning classifications. These regulations typically establish a minimum number of parking spaces a development must include. For example, multi-family residential developments like apartments and townhouses are required to provide 1.5 to 2 parking spaces for every dwelling unit. Two zoning districts covering downtown do not include parking requirements for developments that conform to allowable floor-area-ratios.⁴¹

Setting parking minimums can lead to an oversupply of parking, since the number of parking spaces is dictated by a generic standard rather than the actual demand for parking at a specific location. Parking is expensive to build—from \$5,000 per space in a surface lot to \$35,000 per space in an underground parking structure—and requiring developments to include a set amount of parking increases the overall cost of development.⁴² These increased costs are then passed on in the form of higher rents for residents and business owners. A national



Healthy People & Sustainable Places

study on housing affordability estimated that the cost of parking increased rents by 17% on average.⁴³

The city also issues residential parking permits for certain areas—mainly residential areas bordering downtown or the university—where on-street parking is highly utilized.



Building parking is expensive.

\$5,000

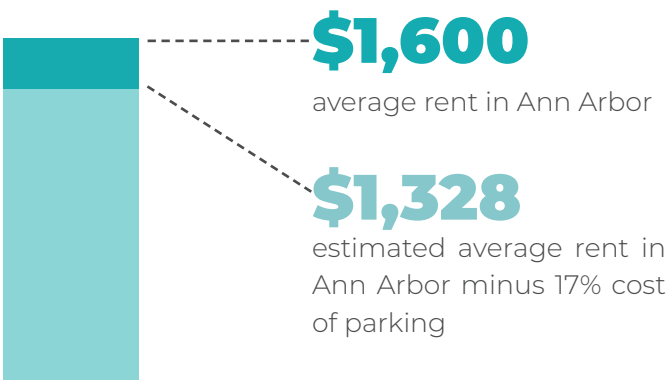
cost to build 1 space in a surface lot

\$25,000

cost to build 1 space in an above-ground garage

+ 17%

additional cost of a housing unit's rent due to the cost of parking



Strategy Description

The city should expand its current policy for downtown and remove minimum parking requirements from the Unified Development Code so that all new developments can determine the proper amount of parking based on existing and forecasted demand. A variety of cities across North America, including Buffalo, New York; Hartford, Connecticut; and Edmonton, Alberta have all eliminated parking minimums.

In addition to removing minimum parking requirements, Ann Arbor should establish maximum parking ratios in downtown and other locations well-served by transit, such as along signature transit corridors (see Strategy 10). Maximum parking ratios set a ceiling for how much parking a development can include, while giving developers the option to provide any amount of parking beneath that threshold.

By removing parking minimums citywide and establishing parking maximums in appropriate locations, the supply of parking will be better aligned with real-world demand. Requiring less land to be set aside for parking can bring a multitude of benefits by increasing housing affordability and freeing up land for alternative uses.

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Planning
- » DDA
- » Engineering
- » Systems Planning
- » OSI
- » A2Y Chamber
- » AAATA

Targets

1. Update Unified Development Code to remove parking minimums citywide by 2022.
2. Establish parking maximums along signature transit corridors and in areas well-served by transit by 2022.



18. 20-Minute Neighborhood

Ensure that all residents have access to basic daily needs within a 20-minute walk.

Current State

A 20-minute neighborhood is a place where residents can meet most of their daily, non-work needs (like shopping, groceries, parks, and schools) within a safe, convenient 20-minute walk. Today, eight out of ten Ann Arbor residents live within a 20-minute walk of a school, grocery store, general retail, and a park. However, people of color are 37% more likely to live in a neighborhood with limited access compared to white Ann Arbor residents.



Mobility



Accessibility for All



Healthy People & Sustainable Places

Strategy Description

By bringing people and the destinations they need to reach closer together, 20-minute neighborhoods offer residents a host of benefits: improved access, more opportunities for physical activity, lower transportation costs, and reduced emissions and air pollution. Ann Arbor residents who live in neighborhoods with poor access to daily essentials spend 8% more on household transportation costs and emit 15% more carbon dioxide each year.⁴⁴ 20-minute neighborhoods also enable older adults to age in place, so that losing access to a vehicle does not result in losing independence.

Ensuring that everyone in Ann Arbor can live in a 20-minute neighborhood and enjoy the associated benefits will require a combination of actions.

- » Improving connectivity for people walking by building out a complete, accessible sidewalk network (see Strategy 4), establishing criteria for connected street networks in new developments, and by retrofitting existing neighborhoods that have low connectivity with direct links that enable people to walk to more destinations.
- » Updating the zoning code to allow for more mixed uses in residential neighborhoods paired with incentives that encourage mixed use development in areas with less access today.
- » Encouraging more housing units, with a focus on affordable units, in locations with good access to basic daily needs.

Timeline



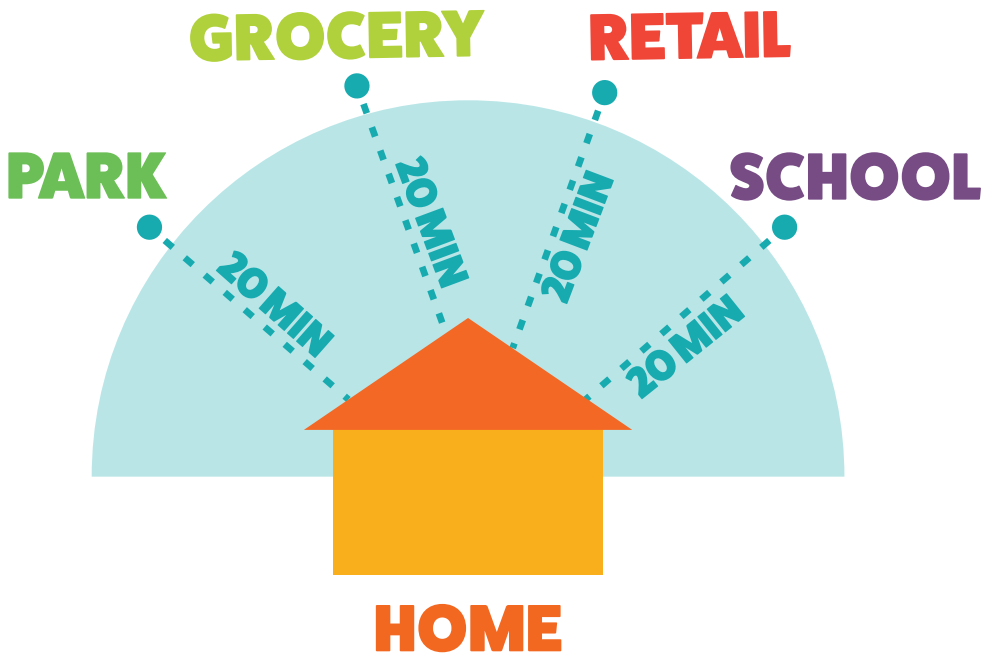
Medium
(4-10 years)

Lead Agency/Stakeholders

- » Planning
- » Engineering
- » Planning Commission
- » Neighborhood Associations
- » Local Businesses
- » Sustainability
- » Ann Arbor Housing Commission (AAHC)
- » Ann Arbor Historic District Commission
- » AAATA

Targets

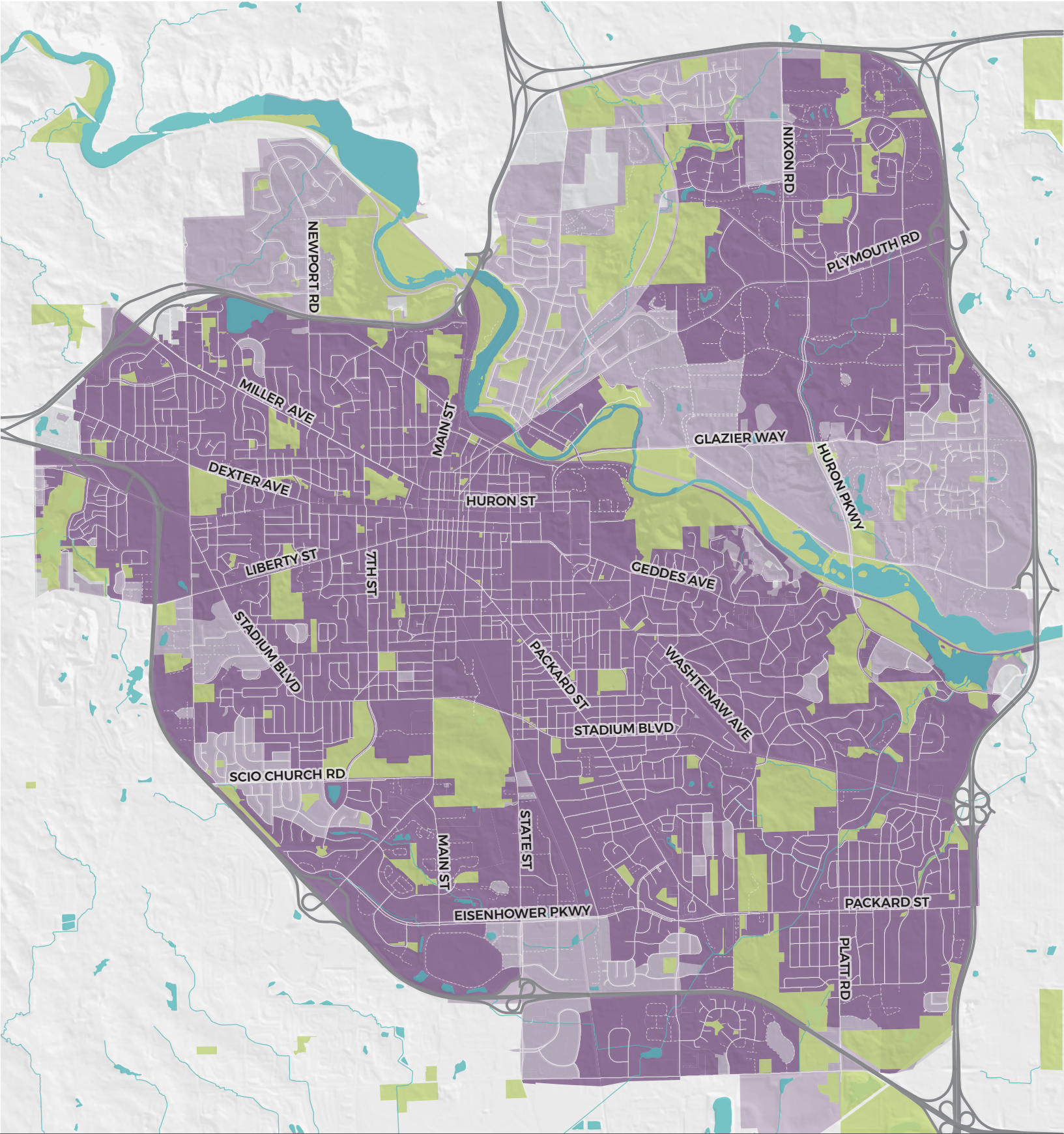
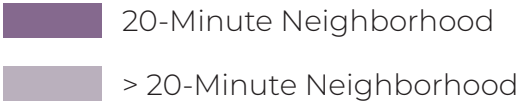
1. Update the zoning code to encourage mixed uses in residential neighborhoods and more housing in locations with good access to basic daily needs by 2025.
2. 100% of Ann Arbor residents live within a 20-minute walk of basic needs by 2030.



20-Minute Neighborhood



20-Minute Neighborhood



19. Shared Streets

Create shared streets in strategic areas downtown.

Current State

A safe, welcoming, and enjoyable pedestrian experience is a crucial ingredient in downtown’s recipe for success. Downtown streets serve many different roles, but chief among those roles is fostering a comfortable pedestrian environment that invites people walking to shop, visit, linger, and interact.



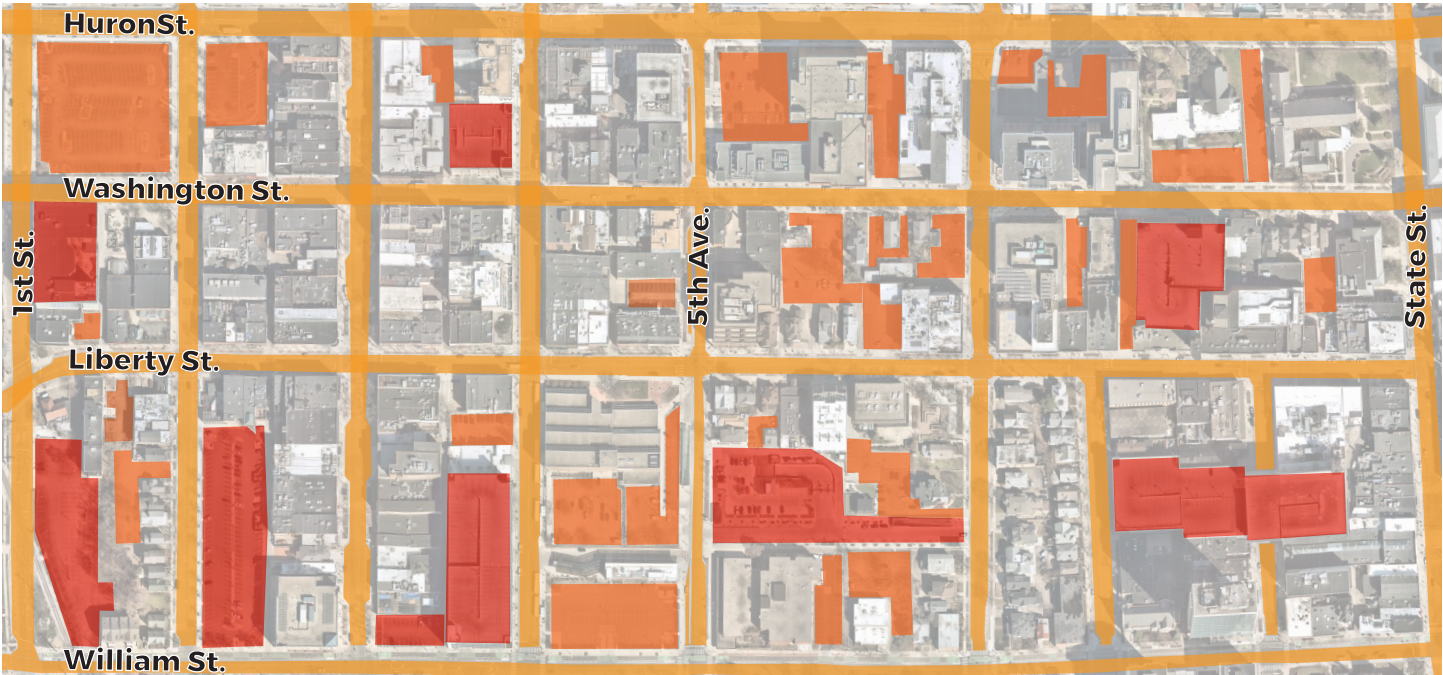
Safety



Mobility

Today thousands of people walk along downtown streets, but vast amounts of space in downtown are dedicated to moving and storing cars. Between travel lanes, on-street parking, surface parking lots, and parking garages, more than one third of all the land in downtown is allocated for cars, which can impede walkability, negatively impact the public realm, and limit opportunities for efforts to enhance the sense of place.

More than 1/3 of all the space in downtown is allocated for cars.



Accessibility
for All



Healthy People &
Sustainable Places

Strategy Description

Creating shared streets in strategic areas in downtown will improve safety and walkability, open up space for people to gather and interact, and encourage commercial activity. Shared streets are designed without many of the typical indicators, like curbs and traditional pavement markings, that demarcate separate space for people walking, biking, and driving on a traditional street. Instead, the street is shared by everyone, and a combination of pavement materials, streetscaping, and traffic calming slow vehicles down to create a safe space for all users.

Shared streets prioritize pedestrians throughout the entirety of the right-of-

way, and improve access for people using wheelchairs, other mobility assistance devices, and strollers, but still allow bicycle, vehicle, and loading access.

Shared streets can attract increased foot traffic to businesses and often incorporate additional elements — such as parklets, public art, sidewalk dining, plantings and greenery, and curated programming — that help foster a vibrant public realm.

Shared streets enable flexibility of how the street is used by allowing for easy temporary closures for festivals and other special events, adapting to changing street use by time of day or day or week, or expanding pedestrian space to allow for physical distancing.

Benefits of Shared Streets



Bell Street in Seattle (Seattle Department of Transportation)



Shared Streets

Design

Shared streets are designed to give pedestrians continuous priority. In order to maintain safety, it is critical that the street’s design creates implicit cues to people driving to navigate the shared streets slowly and with caution.

The strongest reinforcement of pedestrian priority is a continuous, flush surface across the entire roadway width. Textured pavement or unique paving materials also reinforce pedestrian priority, encourage slow vehicle speeds, and can be used to delineate areas where people walking may mix with slow moving vehicles vs. pedestrian-only spaces. Additional elements like bollards, benches, planters or bicycle parking help define which portions of the street are shared spaces and which areas are only for pedestrians. Shared streets maintain limited, slow vehicle access and may still include on-street parking.

Commercial shared streets should permit easy loading and unloading at designated hours. Where shared streets intersect with traditional streets or where a shared street transitions to a traditional street, a combination of signs, speed management measures like raised crossings, and changes in surfacing should be used to indicate pedestrian priority and slow vehicles.

By removing curbs, shared streets can improve access for people with mobility challenges, but careful design is also required so that people with visual disabilities can still safely and easily navigate the street. Groups that represent people with visual disabilities should be included in the planning and design process, and elements like tactile walking surface indicators, detectable edges, and detectable changes in surface texture should be consistently applied to aid in navigation.



Argyle Street in Chicago

Implementation

Shared streets are best implemented where pedestrian activity is high and traffic volumes are fairly low. The Ann Arbor Downtown Street Design Manual identifies a number of streets where pedestrians should be prioritized.

Four streets that present an opportunity for a shared street approach are:

- » State Street,
- » Liberty Street,
- » Main Street, and
- » South University Avenue.

In addition to high levels of pedestrian activity, low traffic volumes, and alignment with the Downtown Street Design Manual, community members also voiced support for shared streets in downtown and these streets as ideal candidates. The temporary street closures implemented in downtown during the summer of 2020 in response to the COVID-19 pandemic offer an opportunity to test certain elements of shared streets and gather public feedback.

Timeline



Lead Agency/Stakeholders

- » DDA
- » Engineering
- » Public Works
- » University of Michigan
- » A2Y Chamber
- » AAATA
- » Commission on Disability Issues

Targets

1. Identify top priority for shared street in downtown within **by 2022.**
2. Implement one shared street project downtown **by 2025.**
3. Create shared streets in two additional locations **by 2030.**

Potential Shared Street	Functional Emphasis	Pedestrian Activity	Traffic Volume/Buses
State Street (from Washington Street to N. University Avenue)	Pedestrian & Access	> 6,500 people walking/day	» 4,600 vehicles/day » No bus routes
Liberty Street (from State Street to Division Street)	Pedestrian & Access	> 5,000 people walking/day	» 2,500 vehicles/day » No bus routes
Main Street (from Huron Street to William Street)	Pedestrian & Access	> 5,000 people walking/day	» 10,800 vehicles/day » No bus routes
South University Avenue (from State Street to Forest Avenue)	Balanced/ Pedestrian & Access	> 6,500 people walking/day	» Traffic volume N/A » Route 62



20. Engagement

Proactively engage with underrepresented voices around transportation issues and projects.

Current State

The Ann Arbor community is made up of thousands of active, involved, and interested neighbors. The city has a Community Engagement Toolkit process to assess project impacts and identify affected stakeholders. The city has provided various forms of engagement to capture resident, business, and visitor input, both as part of [Ann Arbor: Moving Together](#) and other plans and projects. From in-person open houses and walking tours to online surveys with A2 Open City Hall, the city has consistently valued community voices. Throughout the planning process, online surveys consistently collected over a thousand responses. Moving forward, the city can build on the community engagement conducted as part of this plan and continue working to connect with traditionally underrepresented voices, including low-income residents, people of color, non-English speakers, and youth, and empowering all residents to use existing platforms and programs to request transportation improvements.



Accessibility
for All

Strategy Description

To continue improving the city's processes for community engagement around transportation, Ann Arbor should:

Reevaluate and reestablish best practices for equitable and just engagement.

- » Evaluate existing, and develop new, outreach opportunities to engage traditionally underrepresented voices. Also consider audiences who are less likely to participate in virtual formats.
- » Expand upon virtual engagement accessibility (e.g., closed captioning, American Sign Language (ASL), second language).
- » Assess how engagement opportunities are advertised and shared and identify additional channels for reaching more diverse audiences.
- » Consider establishing youth-led stakeholder groups to involve children and young adults.

Streamline the process for citizens to request street and transportation improvements.

- » Expand multimodal options in A2 Fix It (e.g., ADA curb ramps, snow/ice removal in bike lanes, bike lane restriping, bicycle/pedestrian access blocked by construction).
- » Develop a simple, online process to request traffic calming and other programs complementary to the Traffic Calming Program (consider incorporating into A2 Fix It).

Educate residents about the city's transportation priorities, programs, and request processes.

- » Develop educational materials that introduce residents to the city's transportation values and goals, existing programs, and ways to make requests.
- » Partner with neighborhood associations and community groups to share educational materials. Focus on low-income residents, people of color, and non-English speakers.



A2 Fix It (from A2 Fix It webpage)

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Systems Planning
- » Communications
- » Engineering
- » OSI
- » University of Michigan
- » DDA
- » Neighborhood Associations
- » Commission on Disability Issues
- » AAHC

Targets

1. Reevaluate engagement practices within one year.
2. Expand multimodal options in A2 Fix It and streamline online request process by 2023.
3. Increase the diversity of engagement participants.
4. Consistently use the city of Ann Arbor Community Engagement Toolkit to determine the appropriate engagement strategy for projects, policies, and programs.



21. Signal Technology

Expand adaptive signal technology and implement connected infrastructure.

Current State

The influx of commuters on Ann Arbor’s major streets during weekday rush hours strains available street capacity. Travel times on corridors like Washtenaw Avenue, Plymouth Road, and Stadium Boulevard can more than double during rush hour compared to uncongested times. Nearly all the delay drivers encounter (94%) occurs from 7 - 9 a.m. and 3 - 6 p.m.⁴⁵ With limited options for expanding capacity (as well as a commitment



Mobility

to streets that accommodate all users), the city must find ways move more people using existing street space, including shifting more people towards transit and leveraging new technologies. Improvements in adaptive traffic signal technology and connected infrastructure present the opportunity to better manage traffic on a real-time basis in Ann Arbor. The city has already implemented these technologies in portions of the city with positive results. After upgrading traffic signal technology along Ellsworth Road, average travel times on weekdays decreased 12% and reliability improved.⁴⁶



Regional
Connectivity

Strategy Description

In order to increase efficiency on major corridors, the city should continue the installation of advanced signal and infrastructure technology and develop protocols and systems for actively managing traffic within the city. Both components—the physical infrastructure and protocols for turning data into actions—are necessary to derive the maximum benefits from these investments. Implementation should focus on key corridors and intersections experiencing congestion and other operational issues.

In addition to improved traffic management, connected infrastructure can allow for easier integration of treatments such as transit-signal prioritization. In the longer-term, these investments also prepare the city to incorporate and capture the potential benefits of driverless vehicles, which have the potential of enhancing mobility and safety for many, but which will also need to be balanced against the potential negative impacts related to increased traffic.

Timeline



Medium
(4-10 years)

Lead Agency/Stakeholders

- » Engineering
- » MDOT
- » University of Michigan
- » Michigan Office of Future Mobility and Electrification (OFME)
- » SEMCOG
- » AAATA
- » DDA

Target

1. Install adaptive signals and additional connected infrastructure upgrade on all corridors with >20,000 ADT by 2030.



22. Vehicle Technology

Monitor advances in connected and automated vehicle (CAV) technology and evaluate impacts on safety and street design.

Current State

CAVs and other innovations that utilize this technology, like delivery robots, are now being tested on city streets across the U.S. and here in Ann Arbor. Leadership from MCity, a CAV research hub on the University of Michigan campus, has made our city a hub for CAV testing. These innovations have the potential to provide significant benefits for our transportation system by reducing crashes, improving transit service, and decreasing the amount of space needed for parking. The introduction of CAVs could also have negative impacts on life in Ann Arbor by encouraging more people to drive longer distances by themselves, increasing congestion, and leading to a deterioration in transit service that burdens low-income residents with long waits and inconvenient routes.

Strategy Description

If CAVs are to help Ann Arbor achieve its climate goals and create safer streets for everyone, their future operations must be guided by policies that are rooted in the community's values: safety, mobility, accessibility for all, healthy people and sustainable places, and regional connectivity. While it is still unknown when CAVs will become widely available, or



Safety



Mobility

whether they will be owned by individuals, it is critical that the City begins establishing smart, equitable guiding policies today. Ann Arbor and other Michigan cities must work with the state to ensure local control over aspects of CAV operations that impact the health and well-being of residents. Examples of policies that would help harness CAV technology to further Ann Arbor's goals include:

- » Requiring CAVs to detect and yield to people walking, rolling, and biking in all conditions;
- » Limiting CAV speeds downtown, near schools, and other locations with high levels of pedestrian activity.

If CAVs are used as part of shared fleets operated by private companies, example policies include:

- » Adopting strategies and standards that encourage shared trips, connections with transit, and service in disadvantaged communities.
- » Requiring that shared CAV fleets use electric vehicles and that an appropriate portion of fleets are ADA accessible.
- » Ensuring that user privacy is protected and the City has access to data about trip characteristics to inform future policies and investments.

For small CAVs like delivery robots, requirements should be implemented that



Accessibility
for All



Healthy People &
Sustainable Places



Regional
Connectivity

ensure safety for people walking and rolling and maintain accessibility such as:

- » Limiting the size and speed of vehicles that are allowed to operate on sidewalks .
- » Ensuring vehicles are conspicuous, especially for people with visual or auditory challenges.
- » Requiring companies to track and report on safety incidents.

Ann Arbor and Michigan are already demonstrating the benefits of public private partnerships in the AV sector. Ann Arbor should work with strategic partners to:

- » Assess the impact of CAVs on key revenue sources such as parking and gas tax and consider replacements like curbside use fees and road user pricing
- » Continue testing AV technology in Ann Arbor's climate, traffic conditions, and urban environment.
- » Determine physical infrastructure needs around sensors, traffic signals, and communication technology.
- » Leverage CAV technology to improve transit operations and ridership.

In order to prepare the City for CAV technology, Ann Arbor should establish a working group with MCity, AAATA, DDA, and other stakeholder agencies to monitor technology developments, identify opportunities for piloting in Ann Arbor, and proactively creating a smart policy framework .

Timeline



Short
(0-3 years)

Lead Agency/Stakeholders

- » Engineering
- » Sustainability
- » MCity
- » University of Michigan
- » AAATA
- » Michigan Council on Future Mobility
- » MDOT
- » WATS
- » SEMCOG
- » Other Michigan cities

Targets

1. Establish a CAV working group within 1 year.
2. Connect with other Michigan cities and develop joint strategy to advocate for local control of certain aspects of CAV regulation by 2024.
3. Publish an annual update on CAVs covering potential impacts, timeframes, and city needs/actions.



Complete List of Actions

While the key mobility strategies detailed above explain many of the critical actions the city will take in the coming years to achieve its goals and uphold the community’s mobility values, there are

Short-Term Strategies (0-3 years)

additional actions the city must take in the short-, medium-, and long-term to sustain its progress. The tables in the following pages provide a complete list of actions—including the key mobility strategies detailed above.

Strategy	Lead/Stakeholders	Values	6 Es	Targets
+Focus transportation investments on corridors and intersections with the most serious crashes.	Engineering (for full list of partners, see full strategy)	Safety	Engineering	» Develop plans for safety improvements on all Tier 1 corridors and intersections within 2 years. (for full list of targets, see full strategy)
+Address dangerous driving behaviors using design solutions, policy changes, and education efforts.	Engineering (for full list of partners, see full strategy)	Safety	Engineering Education Encouragement Enforcement Equity	(for full list of targets, see full strategy)
+Establish a quick-build improvement program.	Engineering Public Works DDA City Council	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering	» Install at least three quick-build safety projects per year, prioritizing focus corridors and intersections.
+Address all critical gaps in the sidewalk system.	Engineering Systems Planning Public Works MDOT City Council	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering	» Complete all remaining near-term sidewalk gaps within 3 years. » Complete all sidewalk gaps on major streets within 7 years.
+Enhance safety and visibility at mid-block crossings.	Engineering (for full list of partners, see full strategy)	Safety Mobility Accessibility for All	Engineering	» Assess all existing uncontrolled crosswalks and identify necessary enhancements within 3 years. (for full list of targets, see full strategy)

+ denotes a key strategy



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
+Build out a safe, comfortable network of bike routes for people of all ages and abilities.	Engineering (for full list of partners, see full strategy)	Safety Mobility Healthy People & Sustainable Places	Engineering	» Install or upgrade 5 miles of new, low-stress routes each year. » Complete the full all ages and abilities bike network within by 2035.
+Make intersections safer and easier to navigate for people biking.	Engineering (for full list of partners, see full strategy)	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering	» Review safety data every 2 years to identify key intersections to be upgraded. » Upgrade at least 4 intersections per year.
+Update and complete the American with Disabilities Act (ADA) transition plan.	Engineering (for full list of partners, see full strategy)	Safety Accessibility for All	Engineering Equity	» Complete self-evaluation and update ADA Transition Plan by 2023.
+Partner with mobility service providers to expand shared mobility options in Ann Arbor.	Engineering (for full list of partners, see full strategy)	Safety Mobility Accessibility for All Healthy People & Sustainable Places Regional Connectivity	Encouragement	» Re-launch bike share by 2022. (for full list of targets, see full strategy)
+Prioritize transit reliability and speed along signature transit corridors and in key locations.	AAATA (for full list of partners, see full strategy)	Mobility Healthy People & Sustainable Places Regional Connectivity	Engineering	» Implement transit-priority treatments on Washtenaw Avenue and Plymouth Road/ Fuller Road by 2025. » Pilot a bus-only lane downtown by 2023.

+ denotes a key strategy



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
+ Provide reduced fares for transit and shared mobility services for qualified users.	AAATA (for full list of partners, see full strategy)	Mobility Accessibility for All	Equity Encouragement	» Revise enforcement/payment structure by 2023. » Match bikeshare discounts to scooter and/or transit discounts.
+ Price trips according to their impact on the City.	Engineering (for full list of partners, see full strategy)	Mobility Healthy People & Sustainable Places	Equity Encouragement	» Pilot demand-based, tiered parking rates in a select area of downtown within by 2022. (for full list of targets, see full strategy)
+ Develop a citywide transportation demand management (TDM) strategy , building off and expanding the getDowntown program.	Planning AAATA (for full list of partners, see full strategy)	Mobility Healthy People & Sustainable Places Regional Connectivity	Encouragement	» Double the number of employer-sponsored transit passes distributed by 2030.
+ Implement new policies to better align parking supply and demand.	Planning AAATA (for full list of partners, see full strategy)	Healthy People & Sustainable Places	Encouragement	» Update Unified Development Code to remove parking minimums citywide by 2022.
+ Proactively engage with underrepresented voices around transportation issues and improvements.	Systems Planning (for full list of partners, see full strategy)	Accessibility for All	Education Equity Encouragement	» Reevaluate engagement practices within 1 year. (for full list of targets, see full strategy)
+ Monitor advances in automated vehicle technology and evaluate impacts on safety and street design.	Engineering (for full list of partners, see full strategy)	Safety Mobility Accessibility for All Healthy People & Sustainable Places Regional Connectivity	Engineering	» Establish a CAV working group within 1 year. (for full list of targets, see full strategy)

+ denotes a key strategy



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Prioritize street maintenance and facility improvements in vulnerable communities. Incorporate measures of equity and vulnerability, such as % of low-income households, % of minority residents, or % of zero-car households, into the selection criteria for capital projects.	Systems Planning Engineering Planning Public Works	Accessibility for All	Equity	» Update criteria for capital project prioritization to include equity measures within by 2022 .
Accelerate the adoption of electric vehicles (EV) by expanding charging infrastructure and converting public and private fleets and buses.	Public Works AAATA	Healthy People & Sustainable Places	Engineering Encouragement	» Install a minimum of 100 new electric vehicle (EV) charging stations in public parking lots by 2021 . » Launch a community EV bulk buy program. » Launch a campaign to support private fleets with transitioning to EVs.
Provide Engineering staff a NACTO training program on pedestrian safety, Vision Zero, and bikeway design.	Engineering Public Works	Safety Mobility Accessibility for All	Engineering	» N/A
Establish a protocol for responding to fatal and serious injury crashes and evaluating locations for safety enhancements. Use quick-build safety program to make improvements or develop long-term enhancements when necessary.	Engineering Public Works AAPD Office of Communications MSP MDOT	Safety	Engineering Enforcement	» Establish a fatal and serious injury crash response protocol established within 1 year . » 100% of fatal and serious injury crashes follow protocol.
Designate a Vision Zero Citizen Advisory Board , as a committee of the Transportation Commission, to be responsible for overseeing implementation of the Vision Zero program and monitoring progress. Community members should be identified to participate on this Board.	Transportation Commission AAPD City Council Systems Planning Engineering	Safety	Evaluation Equity	» Update Transportation Commission ordinance to include overseeing and monitoring Vision Zero within 1 year . » Transportation Commission includes assessment of Vision Zero program in its annual report.

+ denotes a key strategy



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Develop public/private partnerships to broaden crash and safety-related data available to the city. Particular areas where more data would be beneficial include speeding, distracted driving, and detailed injury information.	Engineering Systems Planning AAPD UM Auto Insurance Providers Health Providers	Safety	Engineering Education Encouragement Enforcement Evaluation Equity	» N/A
Expand the A2, Be Safe! Program , including communications and educational materials explaining safety-related infrastructure projects and targeting specific dangerous behaviors.	Communications Office Engineering Systems Planning DDA AAPD	Safety	Education Encouragement	» Provide and widely share educational materials for all major safety projects. » Conduct one multi-channel campaign targeting a specific dangerous driving behavior each year .
Work with the University of Michigan to develop and deliver transportation safety messages and educational materials to employees, students, parents, and visitors . Messages should emphasize local regulations and dangerous driving behaviors. Timing should coincide with events and times of year that see large influxes of out-of-town visitors (e.g., football games, move-in periods, graduation).	UM Communications Office Engineering Systems Planning DDA AAPD	Safety	Education Encouragement	» N/A
Develop and deploy an annual survey to gather feedback on user experience and satisfaction with the transportation system. Survey results can be used to track user attitudes and behaviors from year-to-year and measure the collective impact of new transportation projects. Include key questions that are not answered by existing data sources (e.g., mode of transportation for non-work trips).	Engineering Systems Planning OSI Communications Office DDA UM	Safety Mobility Accessibility for All Healthy People & Sustainable Places Regional Connectivity	Evaluation	» Deploy survey and publish results each year .
Install bike markings and infrastructure where they are planned during other street construction projects (e.g., street resurfacing or reconstruction, utility projects) . Coordinating improvements for people biking with other construction will reduce costs, limit the disruption the public experiences due to street work, and preserve city assets.	Engineering Public Works System Planning DDA DTE and Utility companies	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Equity	» Develop formal process to coordinate bicycle improvements with planned construction work within 1 year . » Include at least 3 miles of bikeway striping in planned projects each year .



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Continue the annual inventory of bicycle markings and infrastructure condition and prioritize bicycle routes for routine pavement maintenance and begin tracking bicycle detection technology deployment.	Engineering Public Works Systems Planning	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Encouragement Equity	» Develop prioritization process for routine pavement maintenance including bicycle infrastructure condition within 3 years. » Achieve 80% of bicycle infrastructure (including pavement condition and markings) in good condition within 3 years.
Establish a convenient, low-cost cargo bike rental program for residents and students and a program to provide free bikes to job-seekers and low-income residents.	OSI Systems Planning DDA Common Cycle WBWC Bike Alliance of Washtenaw	Mobility Accessibility for All Healthy People & Sustainable Places	Encouragement Equity	» Establish program for job-seekers and low-income residents within 1 year. » Establish cargo bike rental program within 3 years.
Create a bike and e-bike bulk buy program to make discounted bikes available to all residents. The city will work with local bike shops to organize group purchases of bikes and e-bikes at a discounted rate and pass on these savings to residents.	OSI Engineering Systems Planning DDA WBWC Bike Alliance of Washtenaw	Mobility Accessibility for All Healthy People & Sustainable Places	Encouragement Equity	» Launch first bike and e-bike bulk buy program within 1 year.
Maintain temporary, ADA-compliant, access for pedestrians and bicyclists during all construction projects. Monitor ongoing construction work for compliance with ordinance and issue penalties as necessary. Track number of complaints from residents about bicycle and pedestrian access during construction.	Engineering Public Works Planning AAPD Property Developers	Safety Accessibility for All	Engineering Enforcement Equity	» N/A
Establish a policy to consolidate or eliminate existing curb cuts and minimize new curb cuts during construction and development projects to increase pedestrian safety and reduce congestion.	Engineering Planning MDOT City Council Property Owners & Developers	Safety Mobility Accessibility for All	Engineering	» Establish a policy within 3 years.



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Design a school commuting survey and launch survey in all public and private schools. Deploy survey every other year to track trends regarding which modes of transportation children use to get to school.	AAPS Engineering Systems Planning Private Schools Washtenaw County Public Health	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Evaluation	» Develop and launch school commuting survey within 3 years .
Develop school commuting programs and designated walking/biking routes for individual schools.	AAPS Engineering Systems Planning Private Schools Washtenaw County Public Health	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Encouragement Education	» Establish individualized commuting programs and walking/biking routes within 10 AAPS schools within 3 years .
Evaluate and improve sidewalks, crossings, bike infrastructure, and traffic calming along designated school walking/biking routes.	Engineering AAPS Systems Planning Private Schools	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering	» Evaluate conditions at all schools within 3 years . » Make improvements at 3 schools each year .
Develop a standard school traffic calming toolkit and work with AAPS to implement.	Engineering AAPS Systems Planning Private Schools AAPD	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Enforcement	» Develop school traffic calming toolkit within 3 years . » Make improvements at 3 schools each year .
Develop programs to support strategies that contribute to a walkable, pedestrian-friendly environment, such as ground-floor retail. Focus the program on small and local businesses.	Planning DDA Systems Planning A2Y Chamber	Healthy People & Sustainable Places	Encouragement	» Coordinate with DDA to develop a program by 2023 .



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Add vegetation to streetscapes to support the comfort, pleasure, safety, and health of people using the streets. Incorporate vegetation as a form of separating bikeways and sidewalks from traffic, around transit stops, and in high volume pedestrian areas.	Engineering Systems Planning Planning OSI Parks Forestry	Healthy People & Sustainable Places	Engineering	» N/A
Develop neighborhood resilience hubs as community-serving facilities augmented to support residents and coordinate resource distribution and services before, during, or after a natural hazard event. For transportation, resilience hubs can be spaces to engage with residents and co-locate transportation options (e.g., bike share, car share, electric scooter share, vehicle charging).	OSI Engineering Systems Planning	Accessibility for All Healthy People & Sustainable Places	Encouragement Education Equity	» Launch first resilience hub within 3 years .
Expand short-term and long-term bicycle parking throughout the city. Build more bike racks and storage facilities at high-demand locations and within parking garages. Add bike parking to transit centers and busy bus stops. Install bike corrals as part of curb management policy/programs.	Engineering Systems Planning Planning OSI Public Works DDA	Accessibility for All Mobility Healthy People & Sustainable Places	Engineering	» N/A
Focus bicycle infrastructure investments that support regional connectivity. The City should participate in regional planning, advocate for and prioritize investments that maximize the connectivity to regional connections such as the Border-to-Border Trail, and also work to establish new regional corridors such as a potential better connection to Saline and other areas in southern Washtenaw County.	Engineering WATS Systems Planning WBWC MDOT SEMCOG	Regional Connectivity Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Enforcement	» N/A
Expand the City’s bicycle and pedestrian counting program. Collect bicycle and pedestrian counts at more locations and more frequently throughout the year. Coordinate with WATS’ and SEMCOG’s bicycle and pedestrian count programs for consistent data across time periods and geographies.	Engineering Systems Planning WATS SEMCOG	Mobility Healthy People & Sustainable Places	Evaluation	» Increase locations with documented bicycle and pedestrian counts each year . » Install a stationary counter along one priority corridor within 5 years .



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Increase amenities at transit stops , beginning with high ridership routes. Upgrade transit stop amenities at transit centers and on signature routes to include shelters, seating, real-time arrival displays, covered bike parking, and lighting.	AAATA UM Engineering Systems Planning DDA	Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Encouragement	» N/A
Establish curbside management policies downtown , including method for allocating space and determining pricing.	DDA Engineering Systems Planning OSI Planning	Mobility Accessibility for All Healthy People & Sustainable Places	Engineering Encouragement	» Establish curbside management policy within 2 years.
Develop a program to allow alternate uses of on-street parking. The City can identify corridors or blocks where street space currently used for parking could be converted to other amenities such as seating, public art, landscaping or bike parking. Start the program downtown, but also consider other neighborhood or commercial zones.	DDA Engineering Systems Planning Planning OSI Public Works	Healthy People & Sustainable Places	Engineering Encouragement	» Adopt guidelines within 2 years » # of parklets installed per year » # of bike parking corrals installed per year
Coordinate with agency partners who own, operate, and manage infrastructure within the city to plan, build and operate at the city's standards.	Engineering MDOT Washtenaw County UM AAATA	Safety Accessibility for All	Engineering	» N/A
Work with other departments to deploy a connected network of sensors to increase available data related to heat, air quality, and traffic noise. Obtain the hardware, software and staff needed for data collection and processing, and work with the community to install sensors throughout the city. Make the data publicly available and use it to track indicators like air quality over time.	IT OSI Engineering Systems Planning Planning Public Works	Healthy People & Sustainable Places	Evaluation	» Deploy 50 sensors within 3 years.



Short-Term Strategies (0-3 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Create shared street spaces in strategic areas in the downtown.	DDA Engineering OSI Public Works Commission on Disability Issues	Healthy People & Sustainable Places Mobility Accessibility for All Safety	Engineering	» N/A
Publish a public annual update on the Vision Zero program, including actions completed in the previous year, latest crash statistics and safety trends, and key performance metrics .	Transportation Commission Engineering Systems Planning Public Works AAPD Communications	Safety	Evaluation	» Publish an update each year.
Formally review crash data each year to verify focus corridors and intersections, dangerous behaviors, and identify emerging trends .	Engineering Systems Planning AAPD WATS SEMCOG MSP	Safety	Evaluation	» Include results of formal crash review in annual update on Vision Zero program.
Adopt transit-supportive zoning and site design principles that encourage active transportation and transit, particularly along signature transit corridors. Good site design principles could include restricting auto-oriented land uses such as drive-throughs, setting parking maximums, or incorporating bike share stations.	Planning Engineering AAATA	Accessibility for All Healthy People & Sustainable Places	Encouragement Engineering	» Adopt transit supportive zoning by 2022.
Evaluate the impact of increased freight traffic and local deliveries on the safety, health, and livability of Ann Arbor residents, visitors, and businesses and explore options to lessen the impact of truck traffic to the local community while maintaining the economic support to businesses and convenience to individuals.	Systems Planning Engineering DDA AA Chamber of Commerce WATS SEMCOG	Accessibility for All Healthy People & Sustainable Places Safety	Evaluation	» Study freight impacts by 2022.



Medium-Term Strategies (4-10 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
+Continue increasing transit service to improve frequency and consistency.	AAATA UM Engineering Systems Planning OSI DDA	Mobility Accessibility for All Regional Connectivity	Encouragement	» Achieve 15-minute effective frequency throughout the day on Huron Street by 2023. » Achieve 30-minute effective frequency throughout the day on secondary corridors by 2030.
+Improve multimodal access to transit stops.	AAATA (for full list of partners, see full strategy)	Mobility Accessibility for All Regional Connectivity Healthy People & Sustainable Places	Engineering	» 100% of bus stops meet ADA standards by 2030. » Upgrade amenities at all stops on signature transit corridors by 2030. » Establish 1 mobility hub by 2023. » Create 3 additional mobility hubs by 2030.
+Expand commuter-oriented transit services.	AAATA (for full list of partners, see full strategy)	Regional Connectivity Mobility	Encouragement	» Increase share of people commuting into Ann Arbor on transit to 20% by 2030. » Expand spaces at park and ride lots to more than 10,000 by 2030.
+Ensure that all residents have access to basic daily needs within a 20-minute walk.	Planning (for full list of partners, see full strategy)	Healthy People & Sustainable Places Mobility Accessibility for All	Encouragement Equity	» Update the zoning code to encourage mixed uses in residential neighborhoods and more housing in locations with good access to basic daily needs by 2025. » 100% of Ann Arbor residents live within a 20-minute walk of basic daily needs within by 2030.
+Expand adaptive signal technology and implement connected infrastructure.	Engineering (for full list of partners, see full strategy)	Mobility Regional Connectivity	Engineering	» Install adaptive signals and additional connected infrastructure upgrades on all corridors with >20,000 ADT by 2030.

+ denotes a key strategy



Medium-Term Strategies (4-10 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Work with state agencies to refine statewide driver education and testing . Incorporate a greater focus on pedestrian and bicyclist safety and the risks of speeding and other dangerous driving behaviors.	Engineering MDOT MSP State Representatives WATS SEMCOG	Safety	Education	» N/A
Partner with AAPD to improve and refine crash data collection and sharing . Work to improve the speed at which data is shared and standardize how key fields like speeding and distracted driving are entered into crash reports.	Engineering AAPD MSP WATS SEMCOG Systems Planning	Safety	Evaluation	» N/A
Develop a traffic safety ambassador program. Traffic safety ambassadors attend and organize local events to provide education and encouragement around all forms of traffic and transportation. Ambassadors may also develop presentations for schools, senior centers, and other important locations. Programs should pair encouragement with resources, for example helmet give-aways along with education about the importance of wearing helmets,.	Engineering Systems Planning AAPD AAPS UM Office of Communications	Safety	Equity Encouragement Education	» Hire or recruit volunteers for first cohort of community safety ambassadors within 5 years .
Work with AAPS to establish mobility and sustainability education programs . Develop programs for elementary, middle, and high school students that empower students to walk, bike, and use transit.	AAPS Engineering Systems Planning Safe Kids Private schools UM, UM Health	Safety Mobility Accessibility for All Healthy People & Sustainable Places	Education Encouragement	» Launch program in 3 schools within 5 years . » Program operating in all schools within 10 years .
Evaluate additional opportunities (e.g., removing slip lanes, simplifying complex intersections) to reallocate right-of-way for public gathering space . Locations like slip lanes and complex intersections often pose safety challenges and can be redesigned to create more room for public gathering space. These changes can often be made with minimal or no impact on vehicle traffic.	Engineering Systems Planning Planning OSI Parks Public Works UM DDA	Safety Healthy People & Sustainable Places	Engineering Encouragement	» Complete assessment within 5 years .



Medium-Term Strategies (4-10 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Minimize the impact of delivery vehicles on safety and efficiency within the right- of- way. In busy corridors and the downtown, establish temporal restrictions that limit deliveries during peak times, and also clearly sign and re-evaluate dedicated loading zones.	Engineering DDA MDOT Public Works	Safety Mobility	Enforcement Engineering	» N/A
Update transportation impact analysis for developments to better incorporate all modes and prioritize reduction of vehicle trips toward 50% VMT reduction. Revise standards for transportation impact analyses to reduce or eliminate the focus on congestion mitigation and the sufficiency of parking, and instead assess prioritization of access for sustainable transportation modes and evaluate potential impacts and mitigation measures related to any increase in overall vehicle miles traveled.	Engineering Planning	Healthy People & Sustainable Places Mobility Accessibility for All	Evaluation Encouragement Engineering	» Update transportation impact analysis standards within 5 years .
Expand education to residents and businesses on City’s sidewalk snow and ice removal ordinance, related standards, and responsibilities, including curb ramp snow clearance. Launch an awareness campaign on winter maintenance of transportation routes, in similar fashion to the City’s A2 Be Safe initiative. Provide informational materials on the City’s website, on social media, and in-print at relevant locations around the city. Partner with relevant organizations to disseminate informational materials.	Public Works Communications Engineering Systems Planning DDA	Accessibility for All	Education Enforcement	» Launch winter maintenance awareness campaign within 5 years . » Reduced number of complaints/citations related to snow/ice clearance.
Prioritize streets with bicycle routes for snow clearance.	Public Works Engineering	Safety Mobility	Encouragement	» N/A
Address barriers to connectivity for people walking and biking across I-94, US-23, and M-14. Add dedicated bike and pedestrian crossings across I-94, US-23, and M-14, particularly in areas where there are gaps and where there are walkways or bike routes leading up to the highway.	Engineering MDOT Washtenaw County WATS WBWC	Regional Connectivity Safety Mobility	Engineering	» Install improvements for people walking and biking at 5 highway crossings within 10 years .



Medium-Term Strategies (4-10 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Re-evaluate, and where possible, make pedestrian phases automatic at traffic signals. Phase out pedestrian crossing signals requiring activation, particularly in portions of the City where pedestrian demand is high.	Engineering Public Works DDA MDOT	Accessibility for All	Engineering	» Convert all pedestrian-activated signals to automatic within 10 years.
Develop an annual Open Streets program that closes streets to cars, and opens them for walking, biking, pop-up shops, restaurants, and public gathering space on select days. Host Open Streets events in different parts of the City each year.	Systems Planning Engineering Planning, DDA, UM, Neighborhood Associations, WBWC, OSI, Chamber of Commerce	Healthy People & Sustainable Places	Encouragement Education	» Organize 3 Open Streets events per year, distributed throughout the city, within 5 years.
Expand use of pervious pavement in parking lots and plazas and explore use of pervious pavement in alleys and parking lanes. Identify sites best-suited for pervious pavement installation and monitor performance over the pavement's lifetime.	Public Works Engineering DDA UM	Healthy People & Sustainable Places	Engineering	» N/A
Establish criteria for connected street networks in new developments and connectivity between developments. Criteria may include: » Average/maximum intersection spacing » Maximum block sizes » Discouraged cul-de-sacs, gated communities, and restricted access roads » Required pathway connections » Required multiple access connections » Required minimum connectivity measures or incentive for high connectivity (e.g., links per node, intersections per square mile, block perimeter, block length, % of lots inaccessible if one street is blocked, % of destinations within a distance of nodes) » Required street “stubs” to connect into future developments	Planning Engineering Systems Planning Private Developers	Mobility Accessibility for All Healthy People & Sustainable Places	Engineering	» Amend Unified Development Code to include new criteria within 5 years.



Long-Term Strategies (11-20 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Seek opportunities to convert fire and emergency response vehicles to smaller models . Large vehicles pose a greater risk to safety and can present a challenge when attempting to redesign streets with narrower lanes and smaller curb radii (which can improve safety).	Engineering AAFD AAPD UM Health OSI Systems Planning	Safety Mobility Accessibility for All	Engineering Encouragement	» N/A
Address all remaining gaps in the sidewalk system on local roads.	Engineering Systems Planning Public Works	Accessibility for All Safety Mobility Healthy People & Sustainable Places	Engineering	» Address 95% of sidewalk gaps on local roads by 2040 .
Investigate ‘smart’ technologies for pedestrian crossing systems (e.g., passive detection, data collection, adaptive phases based on presence/demand). Install/utilize sensors and cameras to activate pedestrian phases or signal to other traffic that a pedestrian is crossing.	Engineering OSI DDA UM	Safety Mobility Accessibility for All	Engineering	» Increase the number of intersections with ‘smart’ pedestrian crossing technology
Digitize regulations and uses of curb space (e.g., parking, loading) and plan for digital communication between the curb and vehicles. Install adaptable signage that can change to allow different uses at different times of the day. Install sensors and use the data collected to provide real-time curb availability information and to set parking prices. Provide curb information via an app such as ePark Ann Arbor.	DDA ePark Ann Arbor Engineering UM OSI Systems Planning	Mobility	Engineering Enforcement	» N/A



Long-Term Strategies (11-20 years)

Strategy	Lead/Stakeholders	Values	6 Es	Targets
Utilize technology in downtown and along commercial corridors to manage the allocation, pricing, and use of curb space . Test different parking occupancy detections solutions including in-ground sensors, automatic license plate readers (ALPRs), and closed circuit television (CCTV) cameras. Establish data collection systems from sources such as detectors, transactions, and citations and use the data to provide real-time parking/curb availability information and to set parking prices.	DDA OSI Engineering UM	Mobility	Engineering Enforcement	» Track parking utilization rate
Work with TheRide to expand capacity at the Blake Transit Center . Develop additional, conveniently-accessed capacity at and around the Blake Transit Center by repurposing street and sidewalk space around the current facility. Collaborate with TheRide to determine long-term needs for space to accommodate both vehicles and customers.	AAATA Engineering Planning Systems Planning DDA	Mobility	Engineering	» N/A



What Could Our Streets Look like?

Concept plans were developed for four focus corridors and four focus intersections to represent examples of how the city can use many of the tools highlighted throughout this plan to create safer streets, enhance transit operations, and create a better experience for people walking and biking.

The corridors and intersections demonstrated are among the Tier 1 corridors and intersections identified through the safety analysis. A subset of these was selected as areas of focus based on existing characteristics of factors including the pedestrian activity, bicycle level of comfort, transit ridership, and traffic congestion and reliability. The corridors and intersections were also selected to represent a broad base of roadway characteristics and types, so that the treatments demonstrated here could be applied to similar corridors and intersections throughout Ann Arbor. Two of each are included in this section of the plan and the remaining can be found in the Appendix.

The concepts are intended to provide ideas for future improvements, focused on improving the safety of all roadway users. Additional analysis will be necessary in many cases to carry each project forward.

Focus Corridors

1. Plymouth Road (Murfin Avenue to US-23)
2. Washtenaw Avenue (Stadium Boulevard to US-23)
3. Miller Avenue (Downtown to M-14)
4. Main Street (Huron Street to Ann Arbor-Saline Road)

Focus Intersections

1. Washtenaw Avenue and Hill Street
2. Liberty Street and Division Street
3. Ann Street and Glen Avenue
4. Packard Street and Platt Road

Next Steps

- Conduct traffic analysis, where necessary
- Review and analyze alternatives
- Engage community in needs assessment and alternatives evaluation
- Finalize preferred concept and design
- Secure funding

A History of Safety-Driven Design

The City of Ann Arbor has long focused on safety and ensuring mobility for pedestrians and bicyclists, maintaining a Complete Streets design philosophy. The following pages provide a brief overview of projects currently underway that are driven by the same goals that have guided this plan.

Imagining Our Streets

Meeting the ambitious goals of zero traffic deaths and injuries and zero emissions from our transportation system will require rethinking how we design our streets and the priorities that guide our decision making. Ann Arbor's number one priority when it comes to our streets is that they are safe and accessible for everyone. We will never place the speed and convenience of cars above the safe movement of people.

5

What Could Our Streets Look Like?



South State Street Corridor: Ellsworth Road to Oakbrook Drive

South State Street is a heavily traveled corridor connecting the City of Ann Arbor to Pittsfield Township to the south, providing regional connections via an interchange at I-94. A Complete Street redesign will address inconsistencies in sidewalk widths and existing configuration of medians, traffic lanes, and access points and achieve the following goals:

- » Provide **safe** conditions for all travelers
- » Create a more attractive **entry** to the city
- » Improve conditions for **pedestrians** along/across State Street
- » Provide a safe place for **bicyclists** separate from travel lanes
- » Enhance **transit** conditions through traffic flow and stop accessibility
- » Maintain reasonable **traffic** operations along the corridor
- » Support planned **land use**
- » Ease **access** to corridor businesses

Timeline: **Long** (11+ years)

Nixon Road Corridor: Huron Parkway to M-14

The Nixon Road Corridor Study alternatives evaluation culminated in a roundabout corridor concept that will add roundabouts at various locations along the corridor to improve non-motorized conditions, safety, and operations.

Project goals:

- » Improve safety
- » Increase non-motorized facilities
- » Reduce user delays and improve capacity



Project Area 1 Concept: Huron Parkway to Sandalwood Circle

Timeline: **Medium** (4-10 years)

North Main Street Corridor: Huron Street to M 14

Main Street is the primary access route into downtown from the north. MDOT, who owns and operates the street, is planning a reconstruction of the corridor, which will incorporate components of the city’s vision for the corridor, set forth by the North Main-Huron River Corridor Task Force. The task force envisioned a corridor that is more inviting to pedestrians and bicyclists, eases traffic congestion, and provides better connections to the Huron River and riverside amenities. Bicycle connections proposed by the task force have been incorporated into the proposed all ages and abilities bike network.

Before and After concepts from the North Main-Huron River Corridor Task Force Report, September 2013



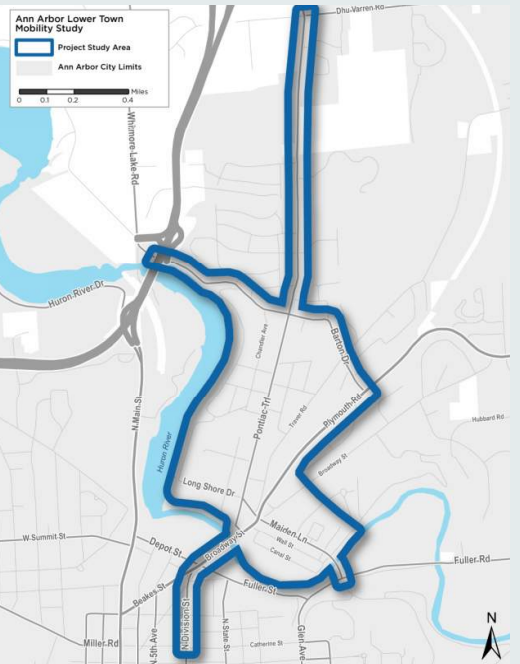
Timeline: **Medium** (4-10 years)

Lower Town Mobility Study

The Lower Town Mobility Study is in the beginning phases, working to understand how the effects of growth and development in the area impact traffic flow and movement of people using all modes – driving, public transit, walking, and biking; and to improve safety and traffic flow for all users. The study began in October 2019 and is anticipated to take 24 months, including a robust public engagement process.

Maintaining safe access for all modes is a key goal of the study.

Timeline: **Short** (0-3 years)



Lower Town Mobility Study Area

Washtenaw & Hill

Objective: Enhance pedestrian and bicycle connectivity on Hill Street crossing Washtenaw Avenue.

Current Conditions

Crashes (2014-2018)

- » 148 crashes (3 involving pedestrians; 2 involving bicyclists)

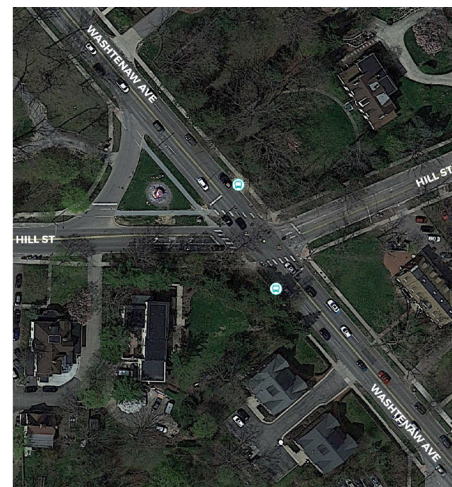
Traffic Volumes

- » 900 pedestrians/day
- » 300 bicyclists/day
- » 16,051 vehicles/day

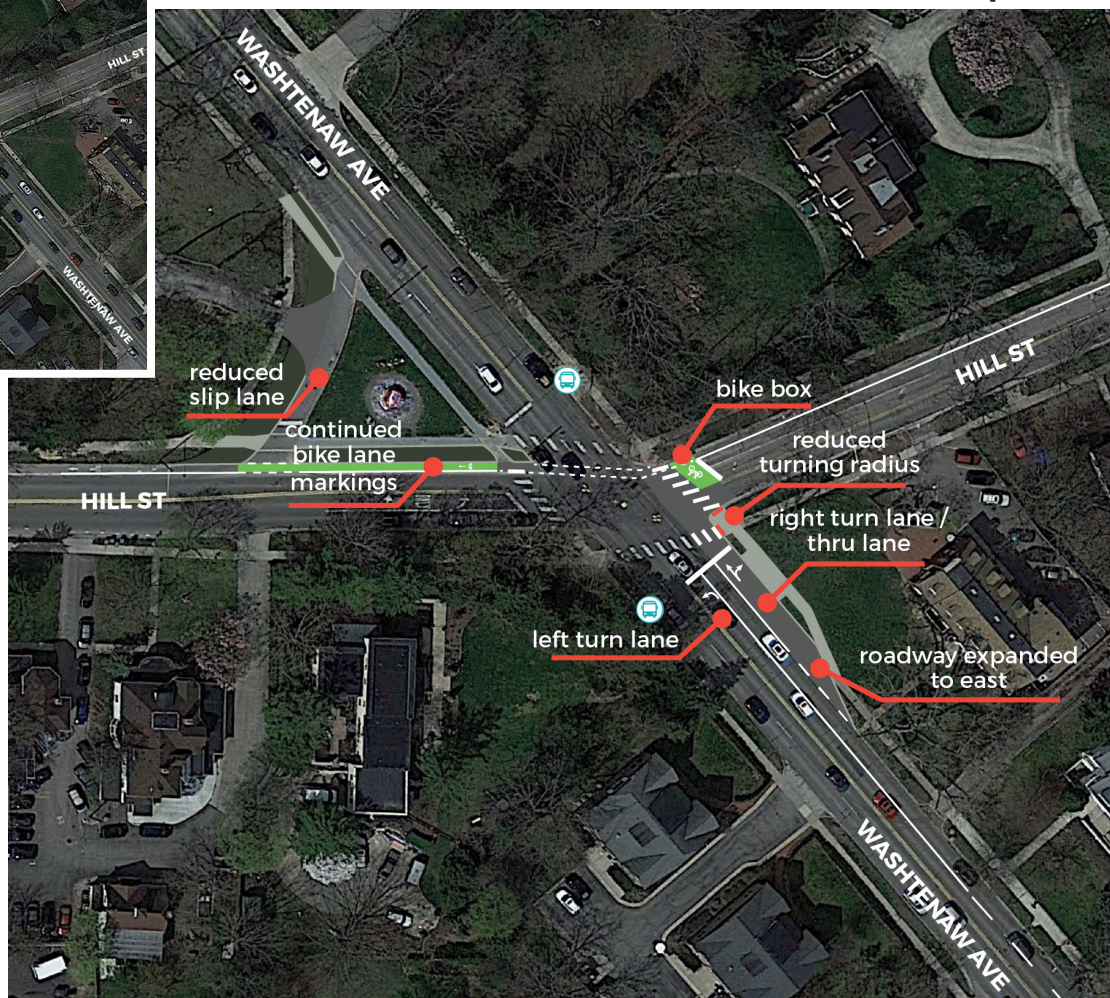
Key Needs

- ✓ Reduced vehicle speeds
- ✓ Safer turning movements from Washtenaw Avenue onto Hill Street
- ✓ Continuous bike route on Hill Street and safe crossing across Washtenaw Avenue

Existing



Proposed



Plymouth Road

Murfin Avenue to US-23

The Plymouth Road corridor, from Murfin Avenue to US-23, is a five-lane arterial with significant transit service activity. There is a shared use path from Broadway Street to Commonwealth Boulevard and a bike lane from Murfin Avenue to Green Road.

The University of Michigan is a significant property owner and stakeholder along much of this corridor. Collaboration with the University on any design along Plymouth Road will be a critical next step in advancing any project.

Primary objectives:

- » Provide a continuous and more comfortable bike route
- » Provide safer and more comfortable connections for pedestrians across Plymouth
- » Improve transit accommodations

Current Conditions

Crashes (2014-2018)

- » 707 total crashes
- » 4 pedestrian or bicyclist serious injuries

Transit Service

- » 3 AAATA Routes (22, 23A/B, 65)

Bicycle and Pedestrian Accommodation

- » Bike lane and/or sidepath
- » Sidewalks
- » Bike Level of Traffic Stress (LTS) 3-4

Traffic Volumes

- » Pedestrian counts range from ~700/day at Murfin Avenue to ~500/day between Nixon to Huron Parkway to ~60/day at Green Road
- » 25,000 - 27,000 vehicles/day

Key Needs

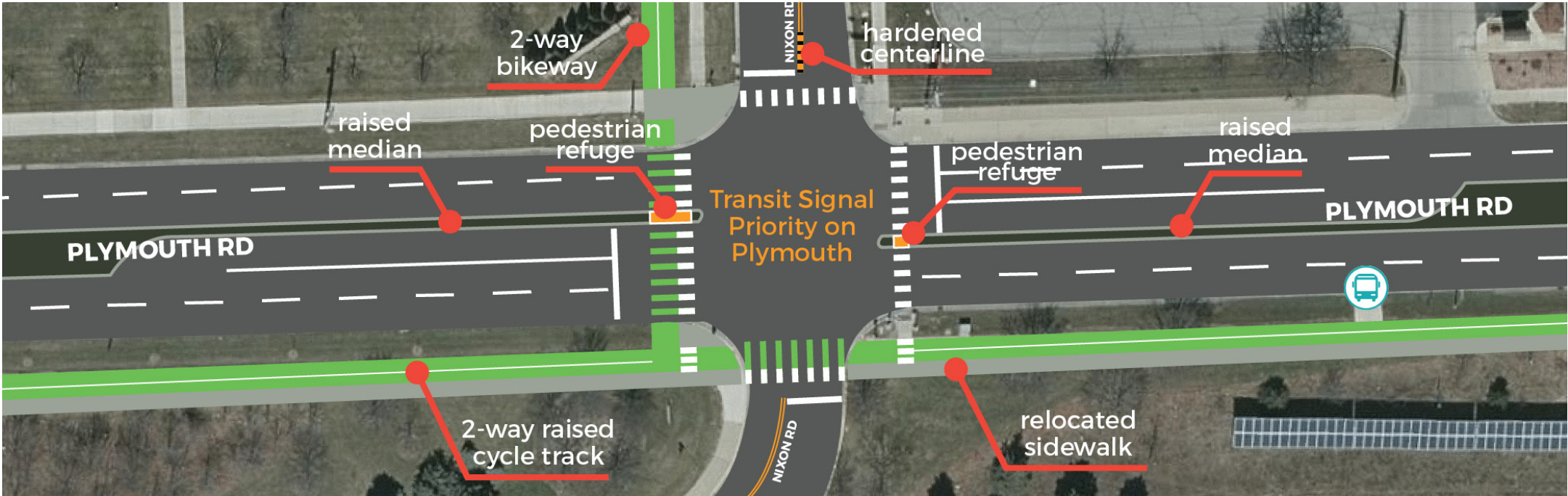
- ✓ Reduced vehicle speeds
- ✓ Additional crosswalks accompanied by appropriate safety measures
- ✓ Continuous bike route that is comfortable and safe for people of all ages and abilities
- ✓ Improved transit travel times and additional amenities for people using transit



Plymouth Road

Murfin Avenue to US-23

Proposed (Plymouth Road at Nixon Road)



Existing (Plymouth Road at Nixon Road)



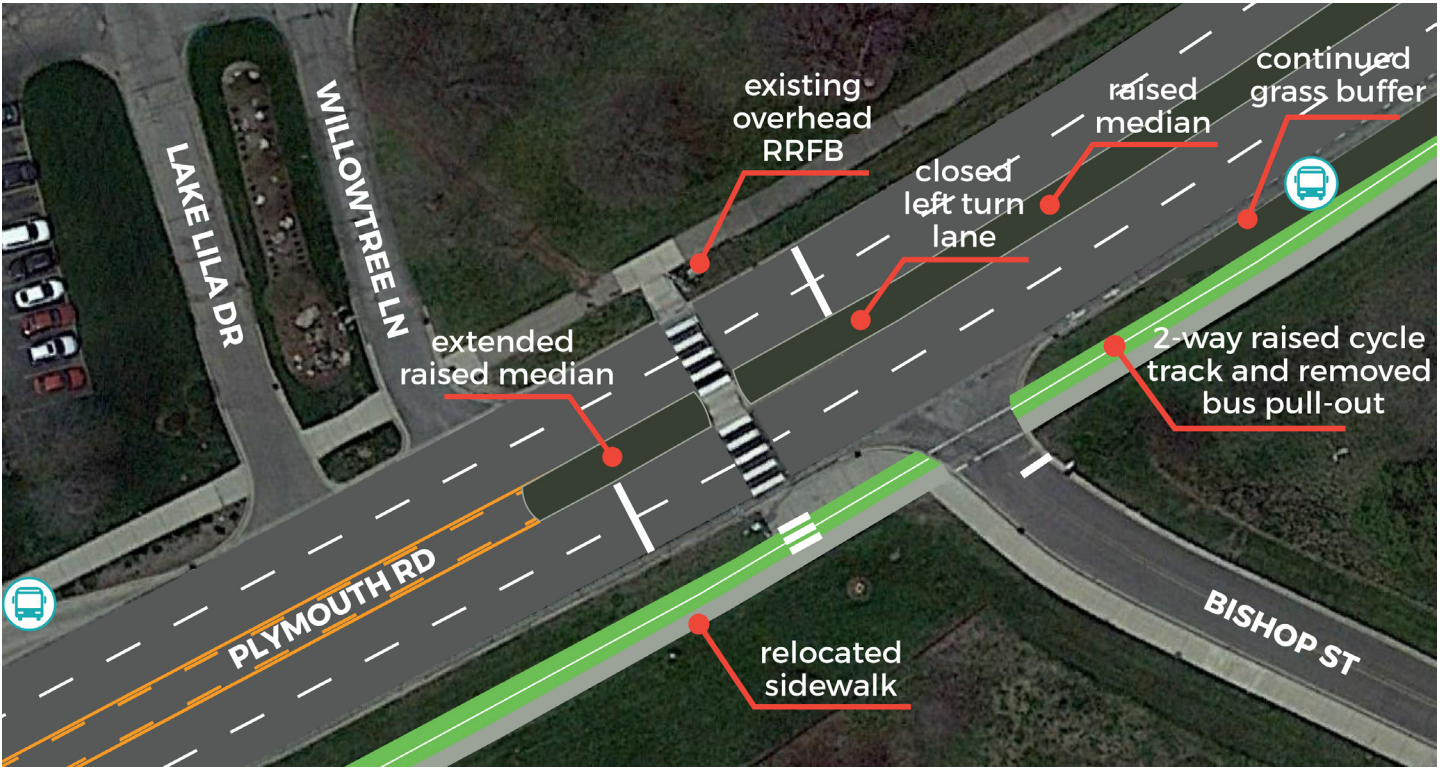
- ### Additional Improvements

 - Establish pre-paid and all-door boarding at hubs
 - Consolidate driveways to minimize conflict points (Prairie – Murfin)
 - Reduce curb radii to shorten crossing distances for pedestrians
 - Additional street trees, landscaping, and street furniture

Existing (Plymouth Road at Bishop Street)



Proposed
(Plymouth Road at Bishop Street)



Washtenaw Avenue

Stadium Boulevard to US-23

Washtenaw Avenue connects Ann Arbor's downtown to Ypsilanti. Washtenaw Avenue is a Michigan Department of Transportation road with a shared use path from Brockman Boulevard to Huron Parkway. While the entirety of Washtenaw Avenue is an important corridor, the area of focus, from Stadium Boulevard to US-23, captures an area of high stress for people walking, biking, driving, and using transit.

Objectives:

- » Address safety incidents at intersection and non-intersection locations
- » Incorporate transit priority elements
- » Facilitate crossings and alleviate short vehicle trips where possible

Current Conditions

Crashes (2014-2018)

- » 1,056 total crashes
- » 3 pedestrian or bicyclist serious injuries

Transit Service

- » 3 AAATA Routes (24, 4A/B, 66)

Bicycle and Pedestrian Accommodation

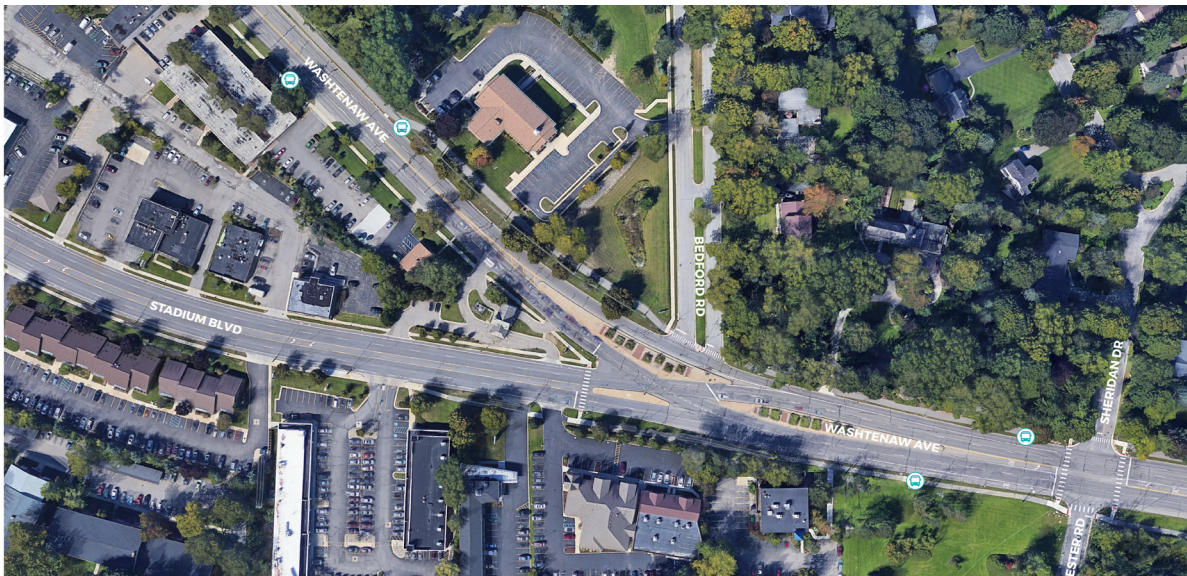
- » LTS 3
- » Sidewalks throughout

Traffic Volumes

- » 15,000 - 31,600 vehicles/day

Key Needs

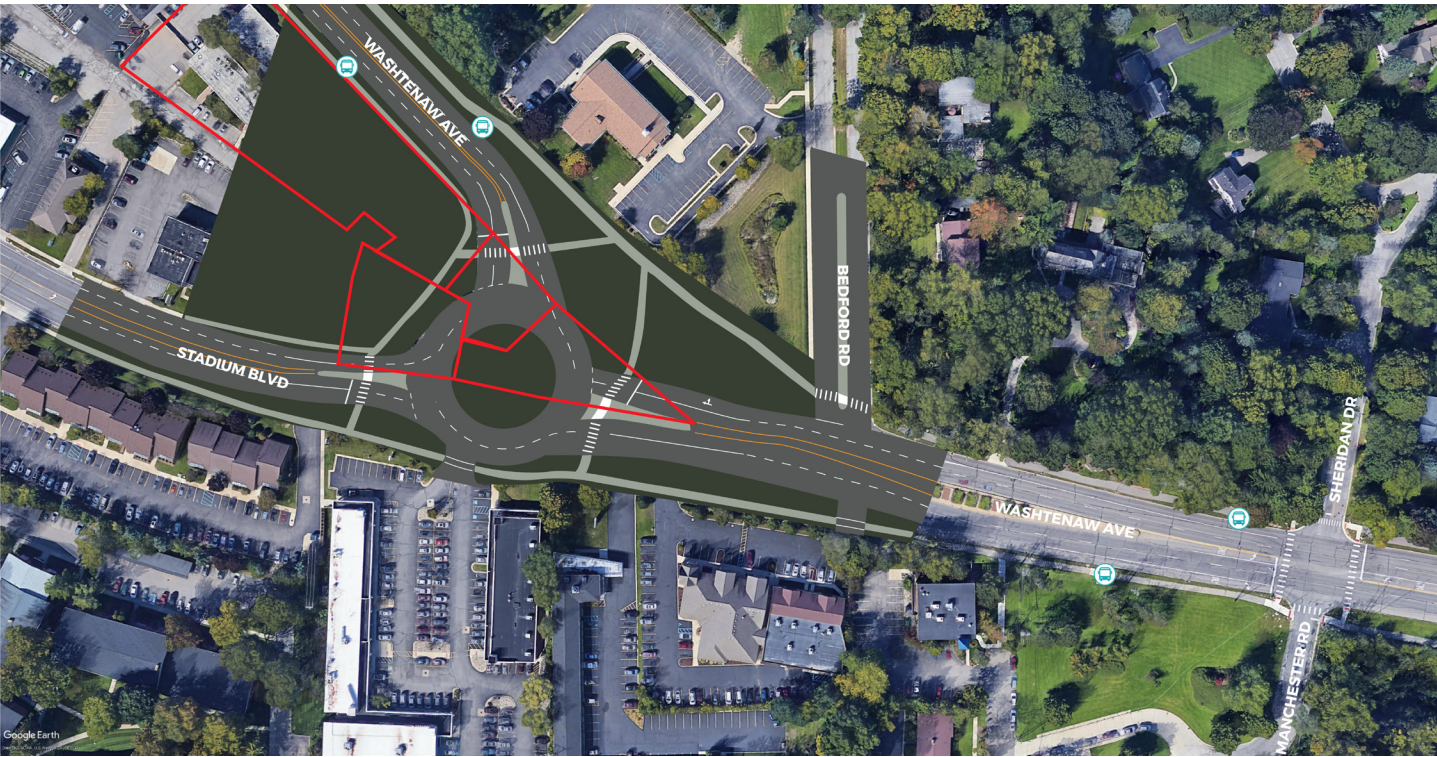
- ✓ Reduce conflicts at driveways
- ✓ Reduced vehicle speeds
- ✓ More crosswalks accompanied by appropriate safety measures
- ✓ Improved transit travel times and additional amenities for people using transit
- ✓ Reduce vehicle delay



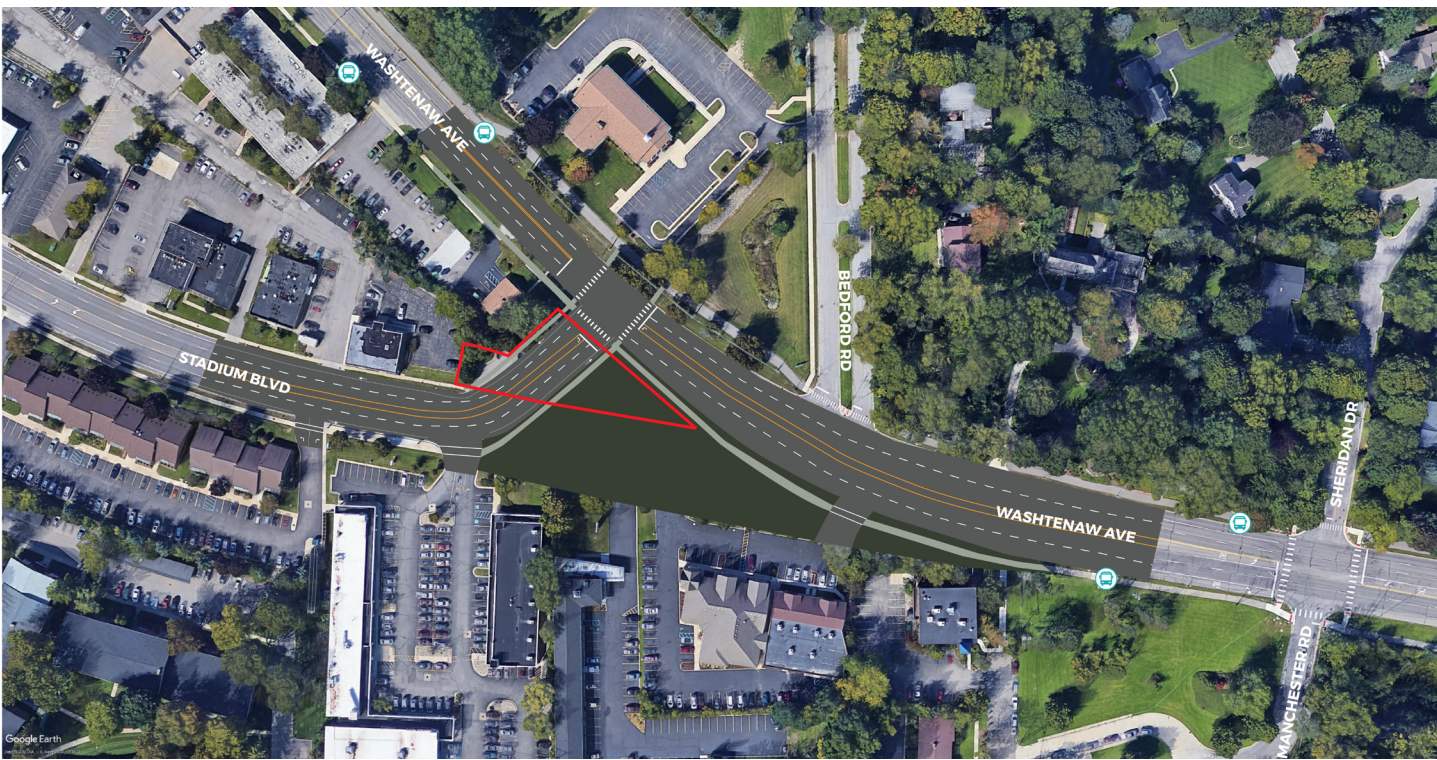
Existing

(Washtenaw Avenue & Stadium Boulevard)

Proposed Roundabout Option (Washtenaw Avenue & Stadium Boulevard)

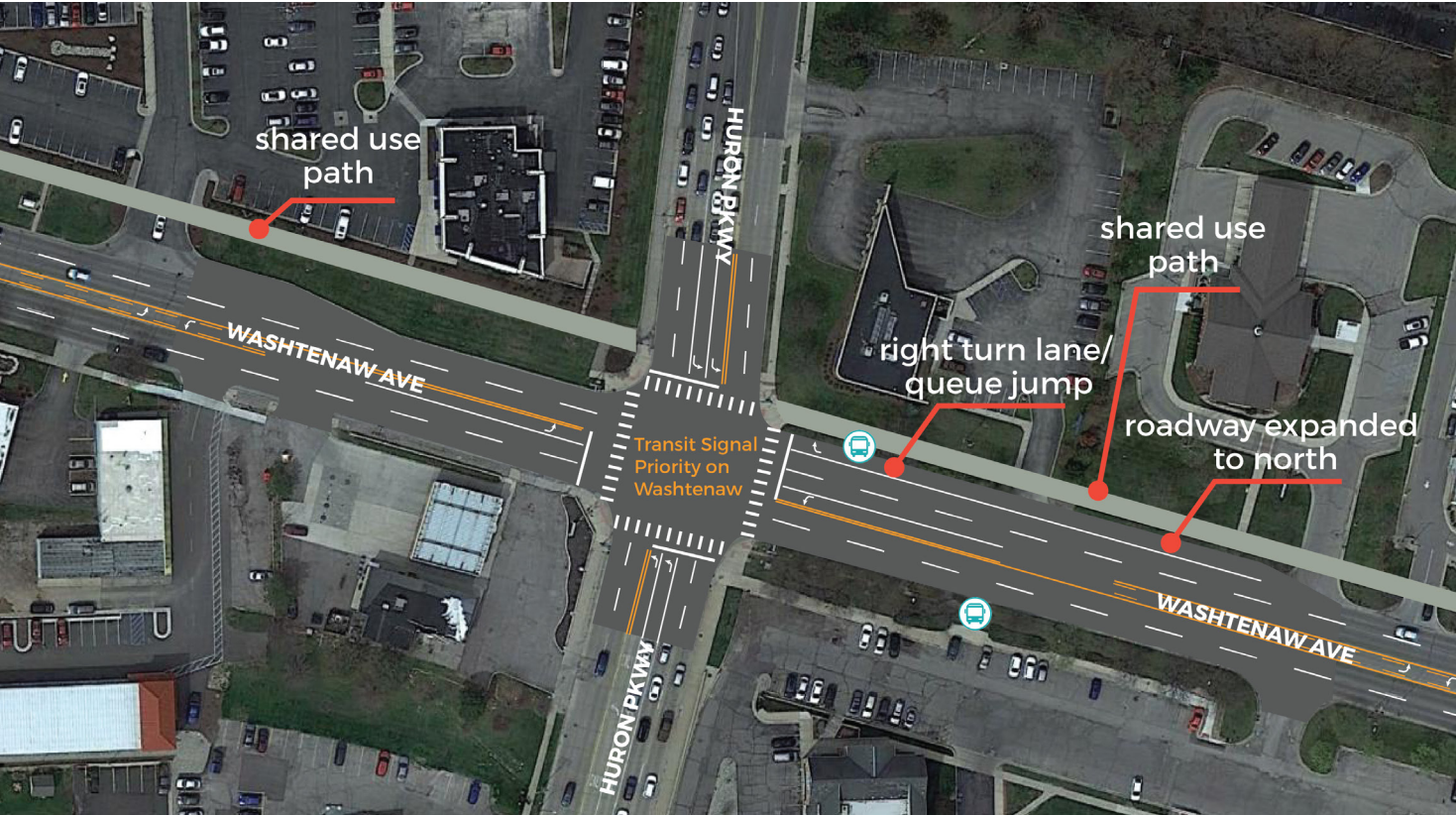


Proposed T-intersection Option (Washtenaw Avenue & Stadium Boulevard)

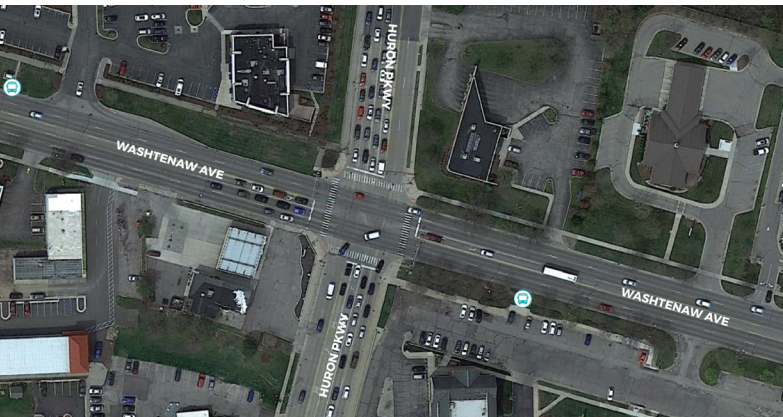


Washtenaw Avenue Stadium Boulevard to US-23

Proposed (Washtenaw Avenue & Huron Parkway)



Existing (Washtenaw Avenue & Huron Parkway)



Additional Improvements

- ✓ Reduce speed limit to 30 mph
- ✓ Increase bus frequency to at least every 15 minutes throughout the day
- ✓ Provide additional amenities at bus stops (based on ridership):
 - » Shelters and/or benches
 - » Real-time arrival information
 - » Expand Plymouth Road Park and Ride lot
 - » Establish pre-paid and all-door boarding at hubs
- ✓ Consolidate driveways to minimize conflict points

Liberty & Division

Objectives: Slow vehicle speeds; better accommodate bicyclists and pedestrians.

Current Conditions

Crashes (2014-2018)

- » 76 crashes (4 involving pedestrians; 4 involving bicyclists)
- » Most common types: sideswipe-same direction (34%) and angle (26%)

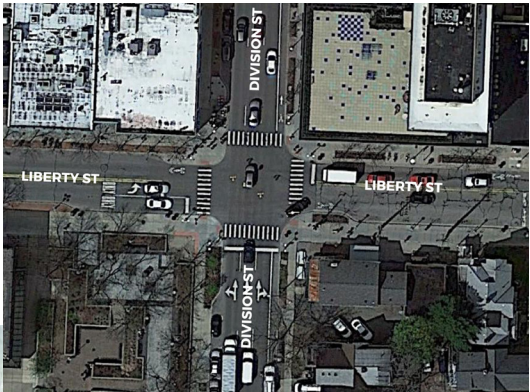
Traffic Volumes

- » 5,400 pedestrians/day
- » 400 bicyclists/day

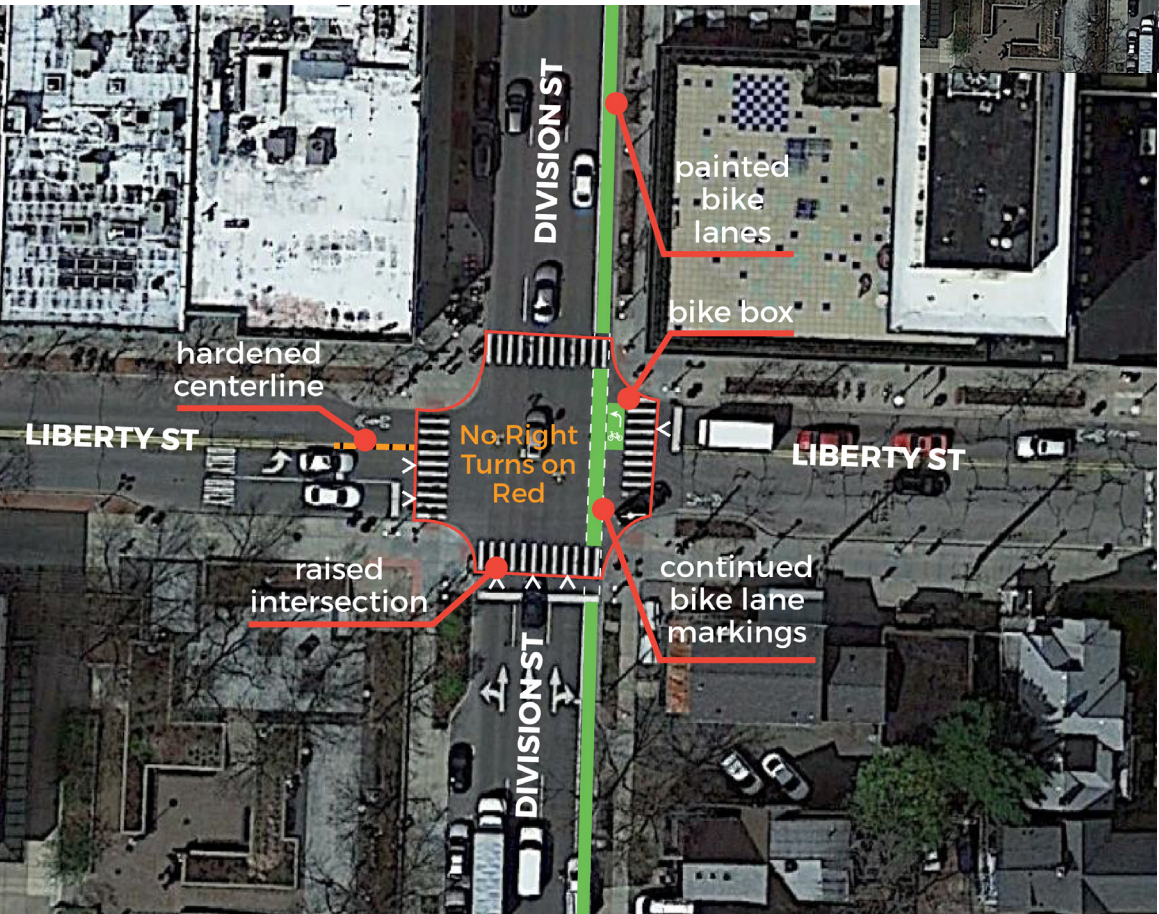
Key Needs

- ✓ Accommodate large numbers of people walking and biking
- ✓ Safer turning movements

Existing



Proposed





How will we make it happen?

Implementation Pathways

Transportation improvements can follow many different avenues to progress from an idea to construction.

Capital Improvement Plan

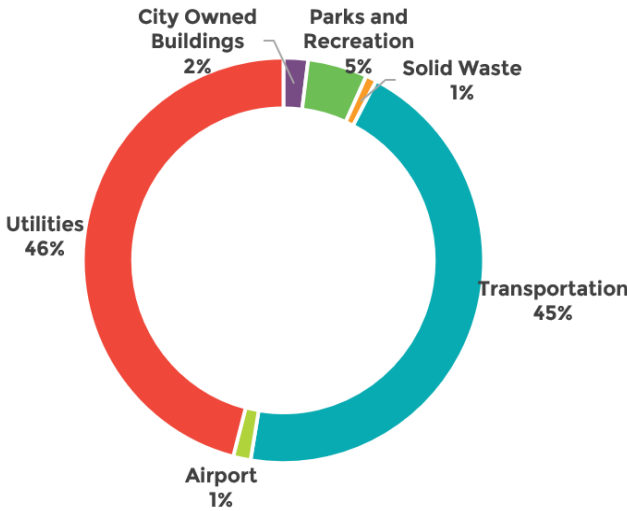
Major projects, like reconstructing a street or adding new sidewalks, typically go through the Capital Improvement Plan (CIP) process, which identifies large (greater than \$100,000) construction or improvement projects that are vital to Ann Arbor. Some projects in the CIP are funded entirely with city money, while others largely rely on outside funding but use city money to meet matching requirements. For example, in the FY2020-2025 CIP 81% of the funding for transit projects came from outside sources.

The city's current CIP runs from the 2021 fiscal year through 2026 and includes more than \$680 million dollars for hundreds of projects. Transportation constitutes a large share of the city's capital funding needs; 45% of the CIP is allocated to active transportation, new streets, parking, street construction, transit, and other transportation projects.

City staff identify potential CIP projects based on citizen requests and input and draw from

master plans (like [Ann Arbor: Moving Together](#)). Potential projects are scored and prioritized based on **8 criteria**:

1. Sustainability framework goals
2. Safety/compliance/emergency preparedness
3. Funding (whether the project has outside funding)
4. Coordination with other projects/agencies
5. Master plan objectives
6. User experience
7. System influence/capacity
8. Operations and maintenance



Asset Group Breakdown in FY2021-2026 Capital Improvement Plan

6

How will we make it happen?



Estimated Capital Investment

The investments estimated here present an order of magnitude cost for the strategies, based on planning-level estimates of the projects, programs, and studies presented. Costs per strategy are then translated into an annual or one-time estimated investment to achieve the stated metrics.

The investments represent an adjustment in the priorities of how resources are currently allocated in order to achieve the goals of the community, but are not wholly additive to the resources already programmed. For some initiatives, the city and partner agencies will also have to rely

on outside funding sources, which may include state and federal grant programs or local millages. Investments noted below are inclusive of city and partner agencies, such as MDOT and AAATA.

It should be noted that two projects listed in previous plans are no longer warranted for inclusion in the long-term capital plan - the completion of Oakbrook Drive and the extension of Clark Road.

- \$ <\$100,000
- \$\$ \$100,000 - \$250,000
- \$\$\$ \$250,000 - \$1M
- \$\$\$\$ >\$1M

Note: all costs are based on 2020 dollars.

Strategy & Relevant Metrics	Cost Overview	Estimated Investment
Focus transportation investments on corridors and intersections with the most serious crashes. » Make improvements on 3 safety focus corridors and/or intersections per year.	\$\$ - \$\$\$\$ per mile \$\$ - \$\$ per intersection	\$3,300,000 annually
Address dangerous driving behaviors using design solutions, policy changes, and education efforts. » 10 curb extensions per year » Install 5 left-turn traffic calming measures per year » Annual major street traffic calming program	\$ - \$\$ per location	\$500,000 annually
Establish a quick-build safety program. » Install at least three quick-build safety projects per year, prioritizing focus corridors and intersections.	\$ per location	\$75,000 annually
Address critical gaps in the sidewalk system. » Complete all remaining near-term sidewalk gaps within 3 years » Complete all sidewalk gaps on major streets within 7 years	\$\$ per mile	\$900,000 annually

Strategy & Relevant Metrics	Cost Overview	Estimated Investment
Enhance safety and visibility at mid-block crossings. » Enhance 25 per year » Install 10 new per year	\$ per location	\$1,200,000 annually
Plan for and build out a network of low-stress bike routes. » Install new or upgrade 5 miles of bike routes each year » Develop a wayfinding system	\$\$ - \$\$\$\$ per mile	\$1,125,000 annually
Make intersections safer and easier to navigate for biking. » Upgrade at least 4 intersections per year	\$\$ per location	\$600,000 annually
Update and complete the ADA transition plan. » Complete self-evaluation and update ADA transition plan by 2023.	\$	\$100,000 one time
Partner with mobility service providers to expand transportation options in Ann Arbor.	\$	\$20,000 annually
Continue increasing transit service to improve frequency and consistency.	\$\$\$\$	\$900,000 annually
Prioritize transit reliability and speed along signature service corridors and at key locations. » Implement transit-priority treatments on Washtenaw Avenue and Plymouth Road/Fuller Road by 2025. » Pilot bus-only lanes downtown by 2023.	\$\$\$\$ per corridor	\$1,500,000 per instance
Improve multi-modal access to transit stops. » 100% of bus stops meet ADA standards by 2030 » Establish 1 mobility hub by 2023 » Create 3 additional mobility hubs by 2030	\$ per location \$\$ per hub	\$100,000 annually



Estimated Capital Investment

Strategy & Relevant Metrics	Cost Overview	Estimated Investment
Expand commuter oriented transit services. » Expand spaces at park and ride lots to more than 10,000 by 2030.	\$ per location	\$75,000 <i>annually</i>
Provide reduced fares for transit and shared mobility services for qualified users.	\$	\$25,000 <i>one time</i>
Price trips according to their impact on the City. » Complete a road user pricing study within three years.	\$\$	\$150,000 <i>one time</i>
Develop city-wide TDM strategy, building off and expanding the GetDowntown program.	\$ per study	\$25,000 <i>one time</i>
Implement new policies to better align parking demand and supplies.	\$ per study	\$25,000 <i>one time</i>
Create shared street spaces in strategic areas in the downtown. » Implement one shared street by 2025 » Create shared streets in two additional locations by 2030	\$\$ - \$\$\$\$ per location	\$1,000,000 <i>per instance</i>
Expand adaptive signal technology and implement connected infrastructure. » Develop ITS Plan by 2024.	\$\$	\$200,000 <i>one time</i>
Monitor advances in automated vehicle technology and evaluate impacts on safety and street design.	\$	\$20,000 <i>annually</i>

Strategy & Relevant Metrics	Cost Overview	Estimated Investment
Provide Engineering staff a NACTO training program on pedestrian safety, Vision Zero, and bikeway design. » Training completed within 1 year.	\$ per instance	\$15,000 <i>one time</i>
Expand the A2, Be Safe! Program. » Conduct one multi-channel campaign targeting a specific dangerous driving behavior each year.	\$ per location	\$50,000 <i>annually</i>
Develop and deliver transportation safety messages and educational materials to employees, students, parents, and visitors.	\$	\$15,000 <i>annually</i>
Develop and deploy an annual survey.	\$	\$20,000 <i>annually</i>
Install bike markings and infrastructure with other planned projects. » Include 5 miles of bikeway striping in planned projects per year.	\$ per mile	\$250,000 <i>annually</i>
Establish a convenient, low-cost cargo bike rental program.	\$	\$10,000 <i>annually</i>
Create a bike and e-bike bulk buy program.	\$\$ - \$\$\$\$ per location	\$10,000 <i>annually</i>
Develop school commuting programs. » Establish individualized commuting programs and walking/biking routes at 10 schools within 3 years.	\$ per location	\$25,000 <i>annually</i>
Evaluate and improve sidewalks, crossings, bike facilities, and traffic calming along designated school walking/ biking routes. » Make improvements at 3 schools per year	\$ per location	\$90,000 <i>annually</i>



Estimated Capital Investment

Strategy & Relevant Metrics	Cost Overview	Estimated Investment
Develop a standard school traffic calming toolkit and work with AAPS to implement. » Make improvements at 3 schools per year	\$ per location	\$45,000 annually
Update driver education training for city staff. » 100% of city staff complete training within 3 years » Driver training for professionally licensed drivers updated within 5 years	\$ per instance	\$20,000 annually
Develop a community safety ambassador program.	\$\$	\$100,000 annually

Project Development & Coordination

Ann Arbor remains committed to following a Complete Streets approach to street design so that street users of all ages and abilities and using any mode of transportation can safely, comfortably travel on city streets. It is not the intent or goal of this plan to widen transportation corridors to increase vehicle throughput.

Developing a Complete Streets Checklist will better institutionalize the necessary steps staff must take at various points in the project development and delivery process to ensure that they are properly considering the safety and needs of all street users. A **Complete Streets Checklist** will also act as a tool to standardize and require coordination between staff in different units and departments, which is critical for efficient project delivery. The checklist should apply to all projects over \$100,000. Not every project will include all of the elements listed below, but the process will require staff to identify issues, evaluate a range of potential solutions, and document decisions.

Coordinating safety and other transportation improvements with planned construction work, such as street resurfacing and reconstruction or water main replacements, is among the most effective strategies for making important street upgrades cost-effectively.

Complete Streets Checklist
» Coordination opportunities (city, county, state, utilities, private development) » Functional classification and land use » Existing street cross section and available right of way » Safety » Traffic » Pavement condition » Parking/loading » Traffic signals » Pedestrian infrastructure » Bicycle infrastructure » Transit infrastructure » Freight infrastructure » Urban forestry » Urban design and planning » Stormwater management » Public art

Better coordinating our work in Ann Arbor will:

- » Improve the cost-efficiency of investments;
- » Protect the integrity and life cycle of public assets;
- » Save both the city, other public agencies, and private companies time and money; and
- » Reduce disruption and other impacts from construction for the public.

For example, local street resurfacing in Ann Arbor focuses on one geographic area each year. Bicycle boulevards proposed as part of the bike network for all ages and abilities on local streets, and their installation could be coordinated each year with local street resurfacing. Progressive cities around the U.S. have also begun to consider additional factors, like safety and equity , along with pavement condition when determining which streets to prioritize for resurfacing.



Monitoring & Evaluation

Establishing mobility performance measures for Ann Arbor will enable us to measure progress, guide our investments, identify initiatives in need of refinement, and respond to emerging opportunities and challenges. Potential performance measures were evaluated based on four factors:

- » **Validity**—does the metric accurately measure the result?
- » **Reliability**—is the metric consistent over time?
- » **Simplicity**—does the metric draw on data we can feasibly and affordably collect and analyze?
- » **Meaningful**—if the measure improves, are people’s lives better?

Updated performance measures will be incorporated in an annual report on Vision Zero and transportation in Ann Arbor, which will build transparency and accountability with the community, elected officials, and partner organizations. In addition to the metrics below, the report will also examine general trends in travel patterns, such as commute mode share; transit, scooter, and bike share trips; and survey results from a new annual survey on user experience and satisfaction with the transportation system.

Project Evaluation

In addition to tracking mobility performance measures at a citywide level, evaluating individual projects will provide the city with valuable information to inform the design of future projects and communicate results to the public and elected officials. Ann Arbor should establish a standard process for collecting data before and after major projects are installed in order to measure a project’s outcomes. This process should include:

- » **Developing a formal project evaluation plan** while the project is in the planning/design phase. The project evaluation plan should identify the metrics that will be used to evaluate the project and what data will need to be collected before and after the project is installed, including specific locations where data will be collected, for how long, and when in relation to project installation. Common metrics that may be included in project evaluations include:
 - » Counts of people walking
 - » Counts of people biking and riding location
 - » Transit ridership
 - » Transit speed and reliability
 - » Vehicle volumes
 - » On-street parking utilization
 - » Vehicle speeds (average speed, % of vehicles speeding, % of vehicles speeding > 10 mph, 50% speed, 85% speed)

- » Crash data (number of crashes by mode, number of serious crashes by mode, crash rates by mode, serious crash rates by mode)
- » Yielding rates for pedestrians in crosswalks
- » Equity analysis (demographics of surrounding neighborhood and/or street users, median rent/home price in surrounding neighborhood)
- » Economic benefit analysis (customer spending at surrounding businesses)
- » Air and noise pollution levels
- » Site generated VMT per capita
- » **Collect baseline data** before the project is installed according to the project evaluation plan.
- » **Replicate baseline data collection process** once the project is installed one year following implementation .
- » **Analyze before/after data** to identify project outcomes.
- » **Share findings** with the public, elected officials, and stakeholders





Safety

Annual number of people killed or seriously injured in traffic crashes

- » Baseline: 30 (annual average from 2009-2018)
- » Target: 0 by 2025

Percent of serious injuries and fatalities to people walking and biking

- » Baseline: 36% (2009-2018)
- » Target: 0 by 2025

Percent of serious injury and fatality crashes related to dangerous driving behaviors

- » Baseline: 70% (2014-2018)
- » Target: 0 by 2025

Number of safety improvements installed on focus corridors and intersections per year

- » Baseline: N/A
- » Target: 3 per year



Mobility

Percent of population within a ¼ mile of the all ages and abilities network

- » Baseline: 51%
- » Target: 97% by 2030

Percent of population within a ¼ mile of high-frequency transit (every 15 minutes)

- » Baseline: 26%
- » Target: 40% by 2025

Percent of trips in the city made by walking, biking, and transit

- » Baseline: 36% (2019 Transportation Habits Survey)
- » Target: 50% by 2030

Percent of the low-stress bike network complete

- » Baseline: 25%
- » Target: 100% by 2030

Number of shared mobility vehicles available (carshare, bikeshare, e-scooters)

- » Baseline: 330 shared mobility vehicles (30 car share vehicles, 0 bike share bikes, 300 e-scooters)
- » Target: 1,000 shared mobility vehicles by 2025



Accessibility for All

Transportation costs as a % of household income

- » Baseline: 18%
- » Target: 15% by 2025

Average number of jobs within 20 minutes via different modes

- » Baseline: Driving (109,149), Transit (30,229), Low-Stress Bike Routes (15,231)
- » Target: Transit (50,000), Low-Stress Bike Routes (30,000) by 2030

Percent of bus stops that are ADA accessible

- » Baseline: 89%
- » Target: 100% by 2025

Miles of gaps in the sidewalk network (on major streets and total)

- » Baseline: 18 miles (major streets), 145 miles (total)
- » Target: 0 miles on major streets by 2027, <8 miles total by 2040



Healthy People & Sustainable Places

Average vehicle miles traveled (VMT) per day

- » Baseline: 2.1 million (2018)
- » Target: 1 million by 2030

Percent of population living in a 20-minute neighborhood

- » Baseline: 80%
- » Target: 100% by 2025

Percent of population meeting physical activity guidelines

- » Baseline: 84% (2016)
- » Target: 95% by 2030



Regional Connectivity

Percent of commute trips into/out of Ann Arbor on transit

- » Baseline: 11% (2019 Transportation Habits Survey)
- » Target: 20% by 2030

Number of go!pass (or equivalent citywide program) holders

- » Baseline: 5,000 per year
- » Target: 10,000 per year by 2024





Glossary

20-minute Neighborhood: A neighborhood where the majority of daily needs can be met within a 20-minute walk. This is achieved when a grocery store, school, park, and commercial land uses are within a 20-minute walk of residential land uses.

Accessibility: Ease or ability of reaching a destination.

Adaptive Signal Technology: Technology that enables traffic signals to be dynamic and adapt to traffic conditions to adjust the timing of the signal to accommodate real-time traffic levels.

All Ages & Abilities Bike Route: A route that is designed to feel safe and comfortable for people of any age and any bicycling skill level.

Carbon Neutrality: Reducing the emissions put into the air down to zero.

Complete Streets: Complete Streets are designed and operated to accommodate the diverse and unique needs of that street and its users in its specific context. This includes accommodating people walking, biking, driving, taking transit, as well as the adjacent land uses and how the street needs to function to serve those uses.

Connected and Automated Vehicle Technology: Technology that enables vehicles to operate without a driver. Connected vehicle technology allows vehicles to communicate with each other, with traffic signals, and other infrastructure. Automated vehicle technology is that which enables a vehicle to perform operations, such as braking or steering, without input from a driver.

Connectivity: Connectivity influences the directness of one's path to reach a destination and can be measured by the density of connections in transportation networks.

Equitable/Equity: Ensuring everyone gets what they need to succeed based on where they are and where they need to go. An equitable process or initiative is transparent, inclusive, community-driven and prioritizes segments of the community that have been disproportionately negatively impacted. In spring 2021, the city embarked on an Equitable Engagement Initiative to confront our community's history with racism and biases that have caused important perspectives to be marginalized from community conversations and decision-making processes.

7

Glossary and Key Partner Acronyms



Mobility: Ease or ability to move through the transportation system.

Quick-build Projects: Capital investments that are implemented quickly, using low-intensity and often temporary materials. These installations are easy to modify, remove, or upgrade to a permanent installation.

Shared Mobility: Transportation services that are available to the public, usually for a fee, and shared among users. Common forms of shared mobility include carsharing (e.g. Zipcar), ridesharing (e.g. Uber, Lyft), bikesharing, and e-scooter sharing (e.g. Spin).

Shared Street: A street where all space is shared by all users – vehicles, pedestrians, and bicyclists. Shared streets are all one level (i.e. with no curbs), so that the space is more flexible and can be changed easily to provide different functions.

Traffic Calming: Design features and strategies intended to slow drivers or reduce the number of vehicles on a particular roadway.

Transit Reliability: The likelihood that transit service will adhere to a set schedule and a transit user’s ability to rely on transit to deliver them to their destination in an expected timeframe.

Transportation Demand Management: A concept that aims to address the intensity of demand on a transportation facility or network. Often this involves strategies to reduce traffic volumes and congestion by offering and incentivizing alternatives to driving or spreading out the demand over a longer period of time.

Underrepresented: Groups of people that make up a smaller portion of the population than that of the main subset. This could be in terms of race, gender, income, ability, or others. In the context of engagement: a segment of the population whose voice and advocacy are missing, or marginalized, from the conversation.

Key Partner Acronyms

- AAATA** | Ann Arbor Area Transportation Authority
- AAFD** | Ann Arbor Fire Department
- AAHC** | Ann Arbor Housing Commission
- AAPD** | Ann Arbor Police Department
- AAPS** | Ann Arbor Public Schools
- A2Y Chamber** | Ann Arbor Chamber of Commerce
- DDA** | Downtown Development Authority
- LARA** | Michigan Department of Licensing and Regulatory Affairs
- LETS** | Livingston Essential Transportation Services
- MDOT** | Michigan Department of Transportation
- OSI** | Office of Sustainability & Innovation
- OFME** | Michigan Office of Future Mobility and Electronification
- SEMCOG** | Southeast Michigan Council of Governments
- RTA** | Regional Transit Authority of Southeast Michigan
- UM** | University of Michigan
- WATS** | Washtenaw Area Transportation Study
- WBWC** | Washtenaw Bicycling & Walking Coalition



Endnotes

1

SEMCOG crash data

2

SEMCOG crash data

3

Insurance Institute for Highway Safety

4

[Pedestrian and Bicycle Information Center](#)

5

[American Association of State Highway Officials](#)

6

[Swedish National Road Administration and National Road and Transport Research Institute](#)

7

[NACTO](#)

8

[National Transportation Safety Board](#)

9

International Association of Traffic and Safety Sciences

10

[City of Ann Arbor Street, Bridge, and Sidewalk Millage](#)

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Data provided by the City of Ann Arbor

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Data provided by the City of Ann Arbor

13

American Community Survey

14

Data provided by the City of Ann Arbor

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SEMCOG crash data

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SEMCOG crash data

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[NCHRP Research Report 926: Guidance to Improve Pedestrian and Bicyclist Safety at Intersections \(2020\)](#)

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[NACTO Don't Give Up at the Intersection design guide \(2019\)](#)

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[Center for Neighborhood Technology Housing + Transportation Affordability Index](#)

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National Household Travel Survey, 2017

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[Journal of Policy Analysis and Management](#)

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[National Transit Database](#)

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Data from Google Maps

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[Siemens](#)



Appendices



Concept Plans

Concept plans were developed for four focus corridors and four focus intersections to represent examples of how the city can use many of the tools highlighted throughout this plan to create safer streets, enhance transit operations, and create a better experience for people walking and biking.

Select concepts are included in Section 5 of this report; all concept plans are included here.

Focus Corridors

- 1. Plymouth Road (Murfin Avenue to US-23)
- 2. Washtenaw Avenue (Stadium Boulevard to US-23)
- 3. Miller Avenue (Downtown to M-14)
- 4. Main Street (Huron Street to Ann Arbor-Saline Road)

Focus Intersections

- 1. Washtenaw Avenue and Hill Street
- 2. Liberty Street and Division Street
- 3. Ann Street and Glen Avenue
- 4. Packard Street and Platt Road

A

CONCEPT PLANS



Washtenaw Avenue & Hill Street

Objective: Enhance pedestrian and bicycle connectivity on Hill Street crossing Washtenaw Avenue

Current Conditions

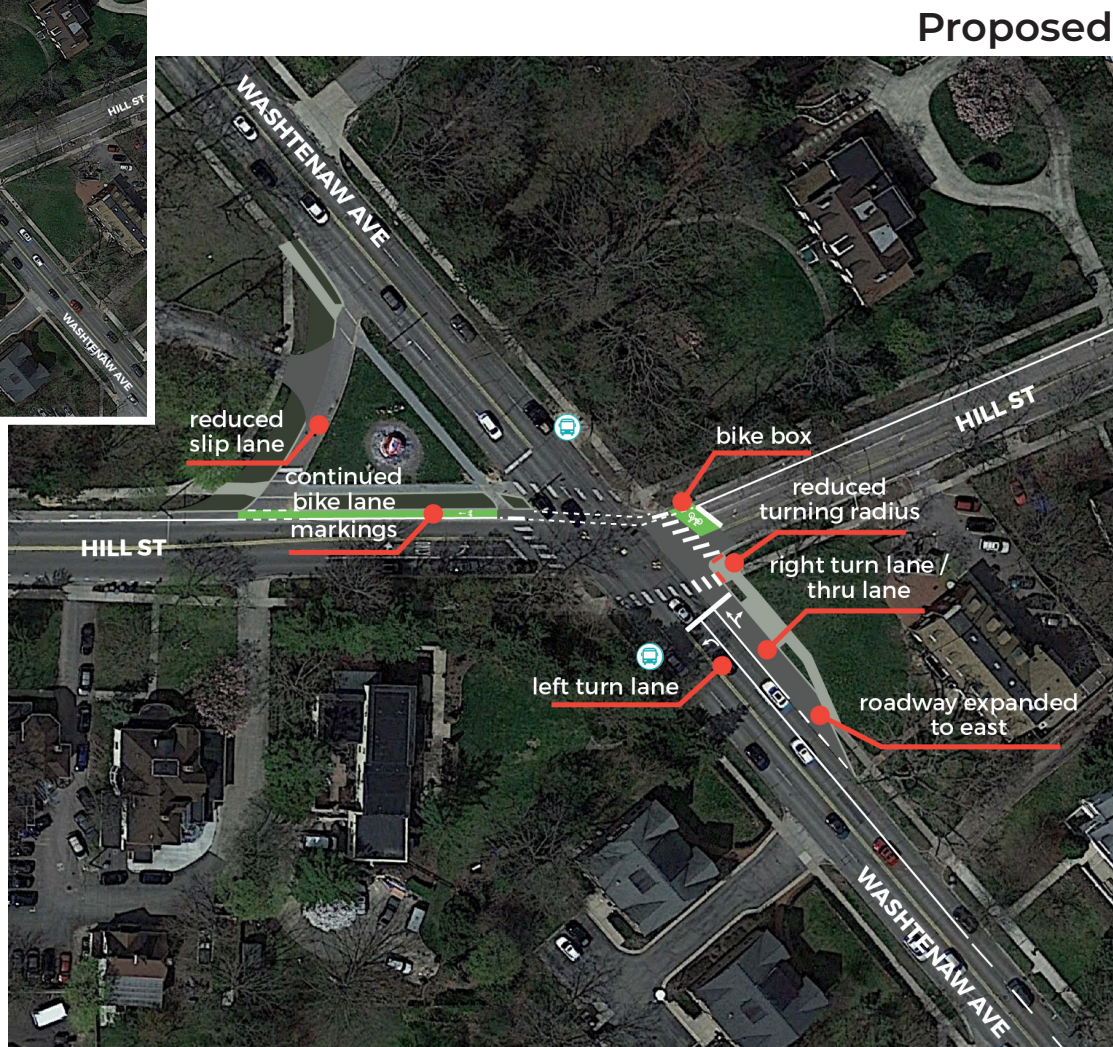
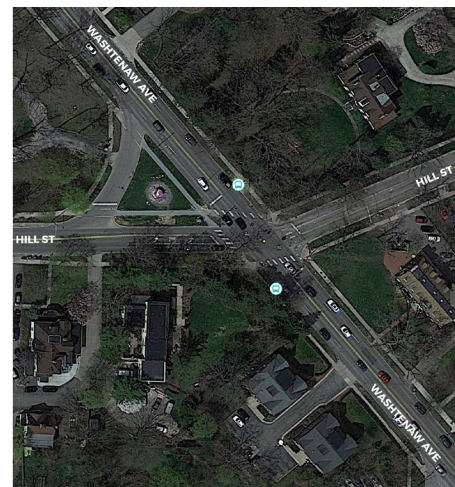
Crashes (2014-2018)

- » 148 crashes (3 involving pedestrians; 2 involving bicyclists)

Traffic Volumes

- » 900 pedestrians/day
- » 300 bicyclists/day
- » 16,051 vehicles/day

Existing



Liberty Street & Division Street

Objectives: Slow vehicle speeds; better accommodate bicyclists and pedestrians

Current Conditions

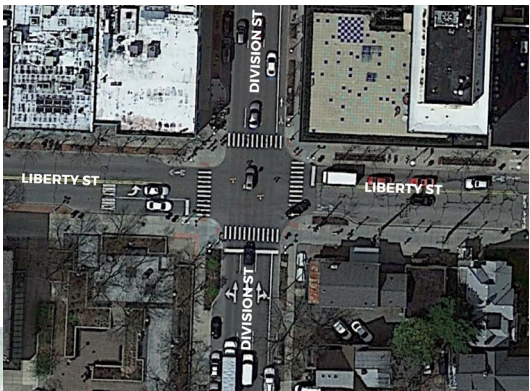
Crashes (2014-2018)

- » 76 crashes (4 involving pedestrians; 4 involving bicyclists)
- » Most common types: sideswipe-same direction (34%) and angle (26%)

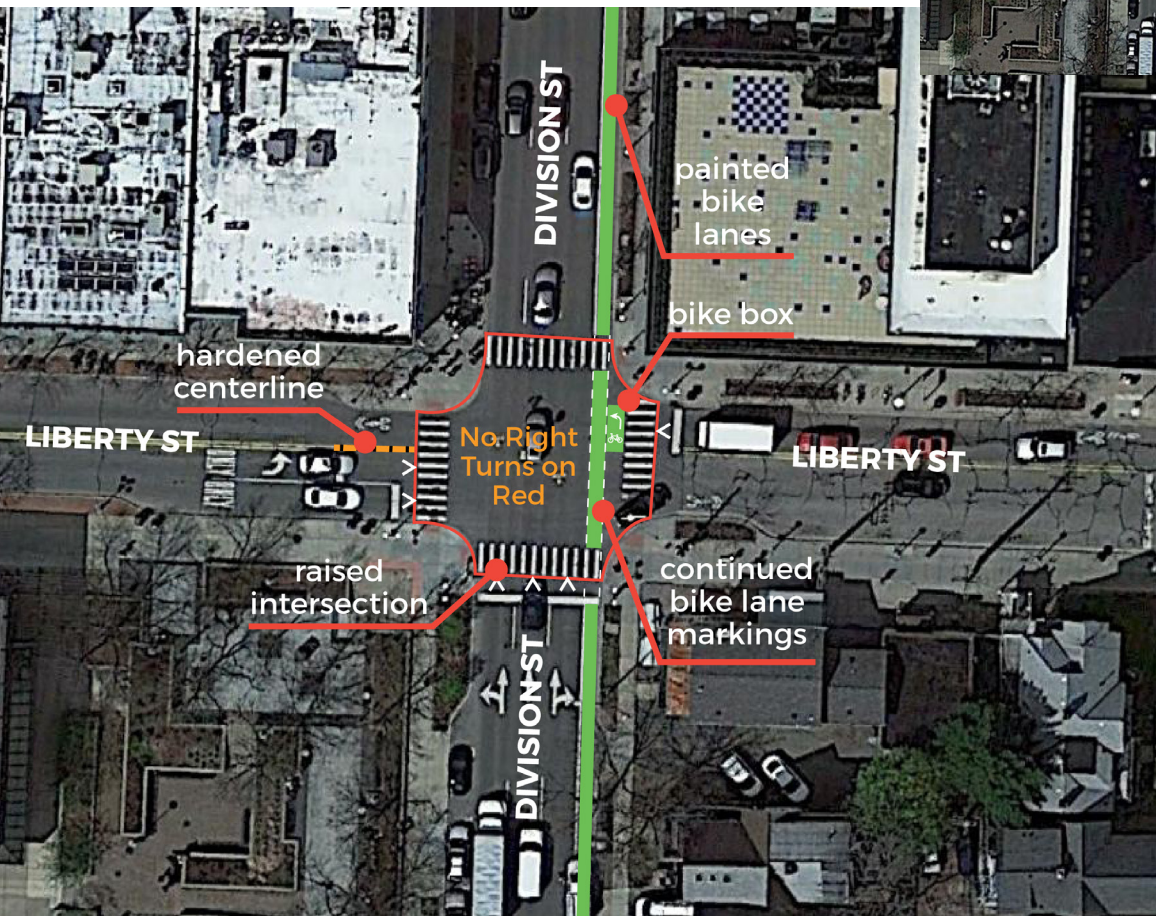
Traffic Volumes

- » 5,400 pedestrians/day
- » 400 bicyclists/day

Existing



Proposed



Ann Street & Glen Avenue

Objective: Slow vehicle speeds; better accommodate bicyclists and pedestrians

Current Conditions

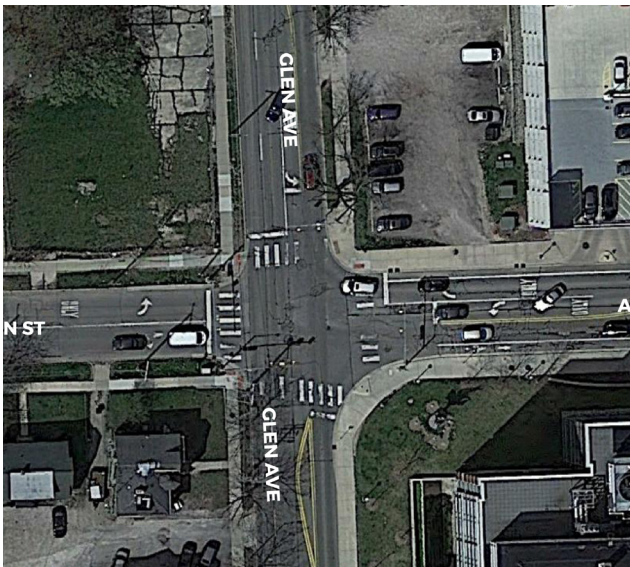
Crashes (2014-2018)

- » 60 crashes (6 involving pedestrians; 6 involving bicyclists)
- » 1 serious injury
- » Most common type: rear ends (30%)

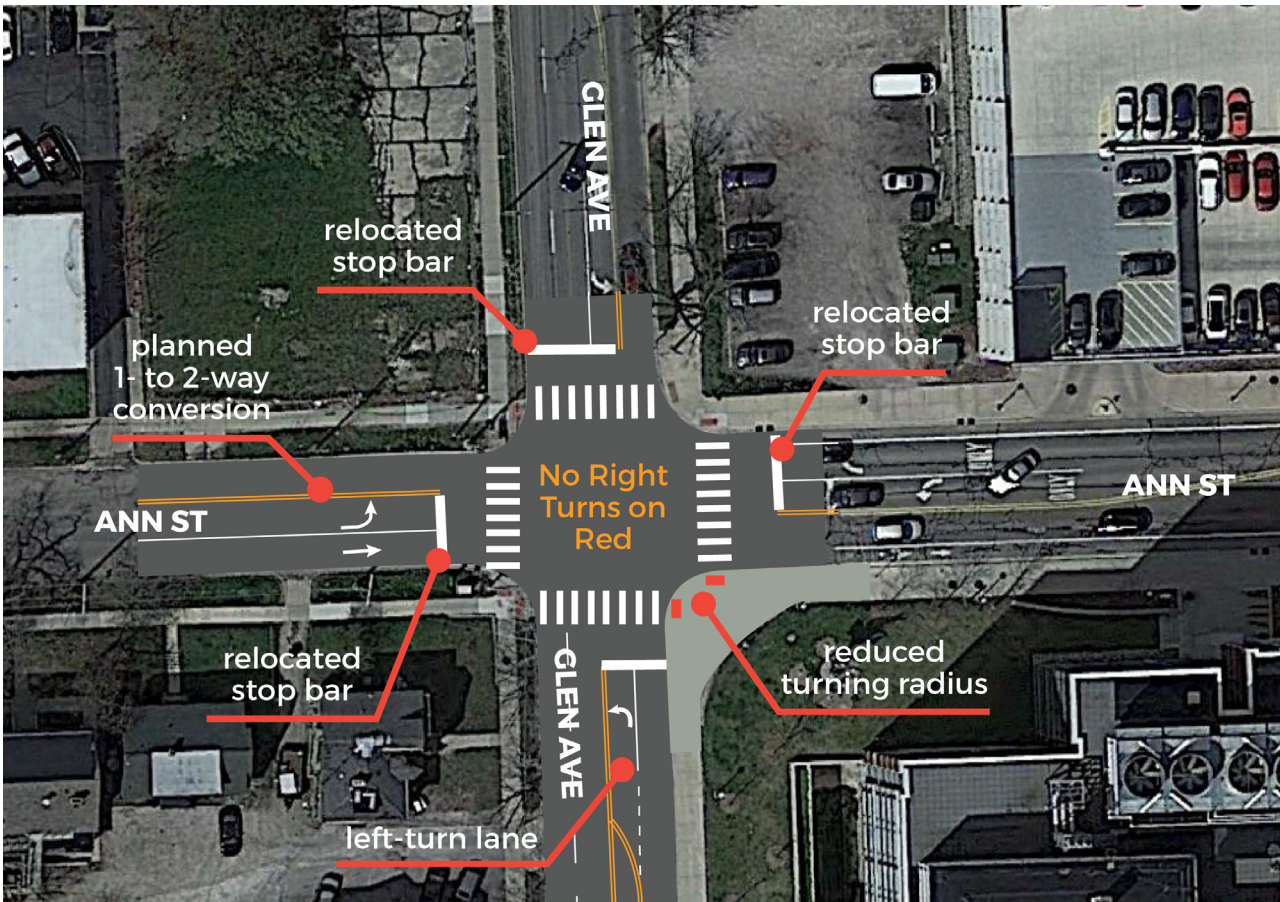
Traffic Volumes

- » 1,400 pedestrians/day
- » 500 bicyclists/day

Existing



Proposed



Packard Street & Platt Road

Objective: Simplify crossings; reduce conflict points; connect bikeway along Platt Road

Current Conditions

Crashes (2014-2018)

- » 167 crashes (4 involving pedestrians; 1 involving bicyclists)
- » 1 serious injury
- » Most common type: rear ends (45%)

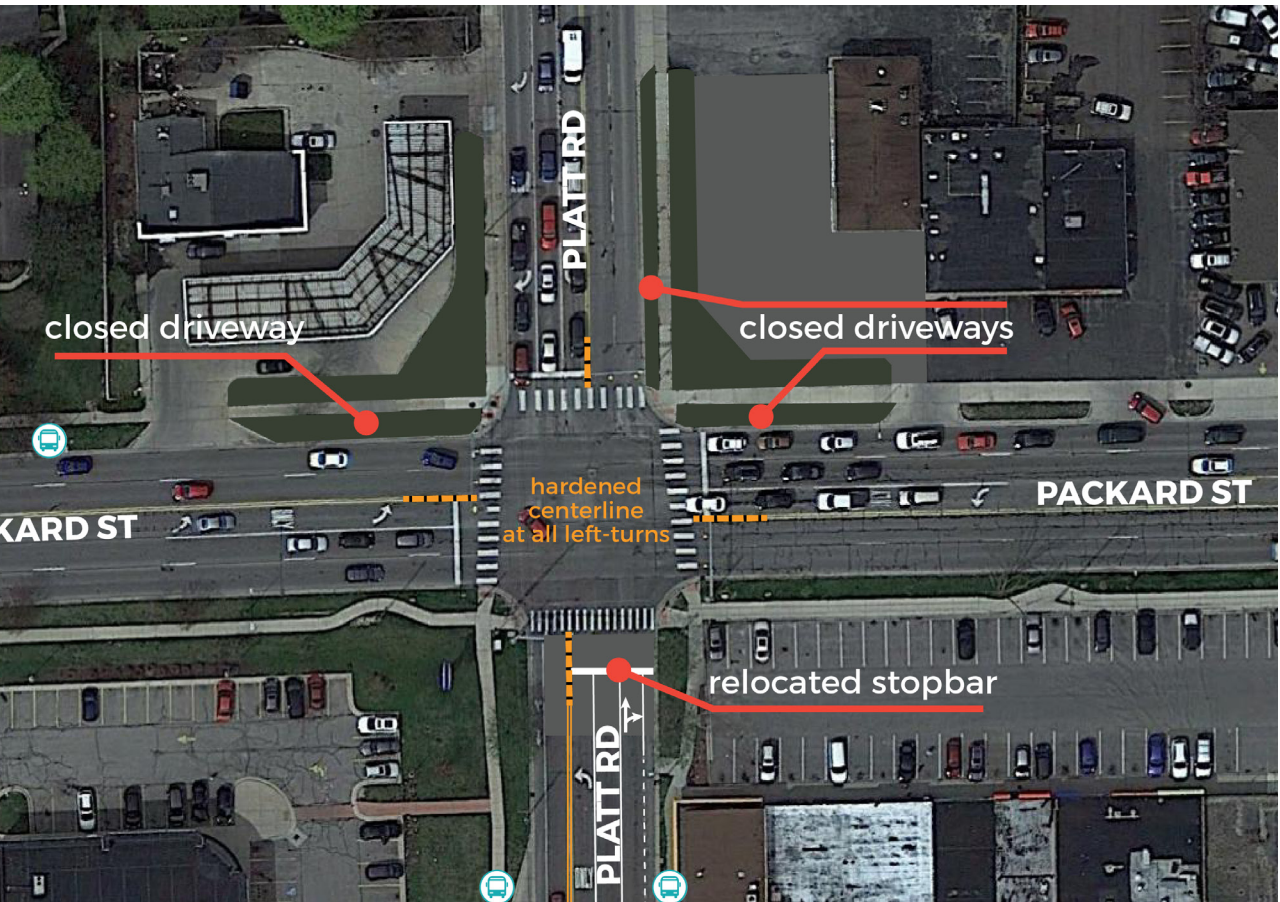
Traffic Volumes

- » 400 pedestrians/day
- » 200 bicyclists/day

Existing



Proposed



Miller Avenue

Downtown to M-14

Objective: Reinforce Miller as a lower-speed, low-stress bike route

Current Conditions

Crashes (2014-2018)

- » 258 total crashes
- » 2 pedestrian or bicyclist serious injuries
- » 1 pedestrian or bicyclist fatality

Transit Service

- » 2 AAATA Routes (32 A/B/C and 60)

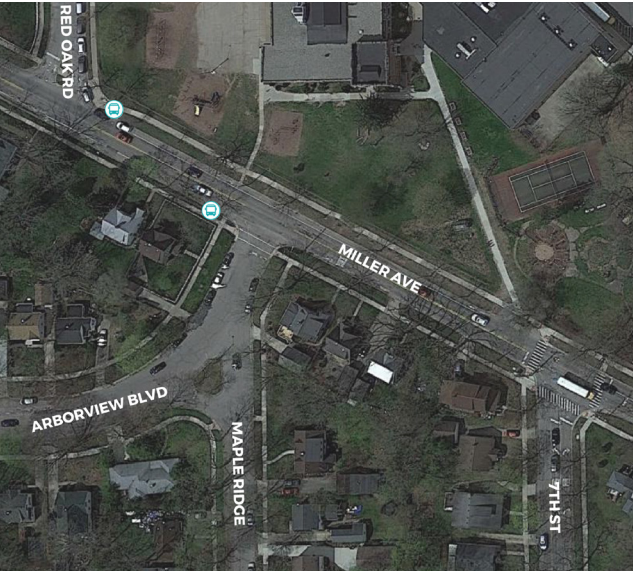
Bicycle and Pedestrian Accommodation

- » Bike lane and/or shared lane; LTS 2-4
- » Sidewalks throughout

Traffic Volumes

- » 8,672 vehicles/day at Wines Drive

Existing (Miller Avenue at 7th Street)



Existing (Miller Avenue at midblock crossing)



Proposed (Miller Avenue at 7th Street)



Proposed (Miller Avenue at midblock crossing)



Washtenaw Avenue

Stadium Boulevard to US-23

Objectives:

- » Address safety incidents at intersection and non-intersection locations
- » Incorporate transit priority elements
- » Facilitate crossings and alleviate short vehicle trips where possible

Current Conditions

Crashes (2014-2018)

- » 1,056 total crashes
- » 3 pedestrian or bicyclist serious injuries

Transit Service

- » 3 AAATA Routes (24, 4A/B, 66)

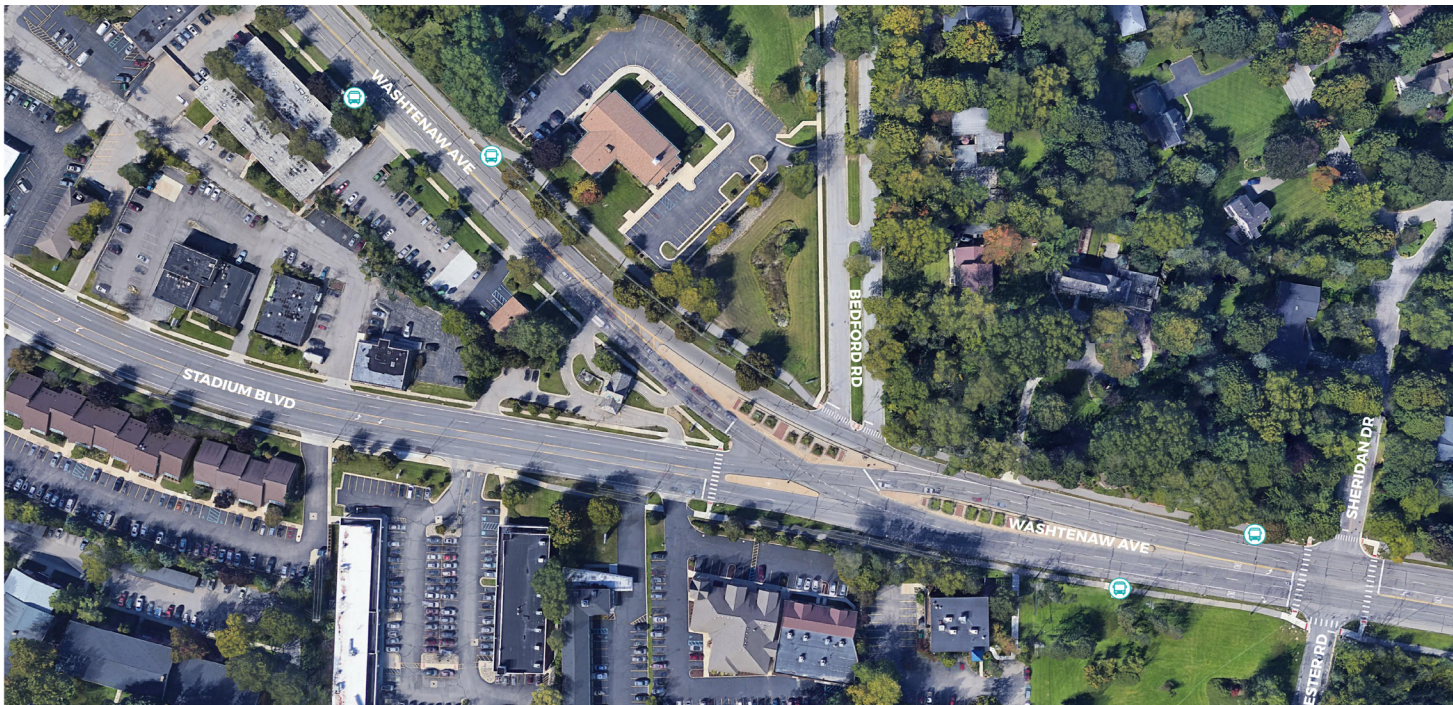
Bicycle and Pedestrian Accommodation

- » LTS 3
- » Sidewalks throughout

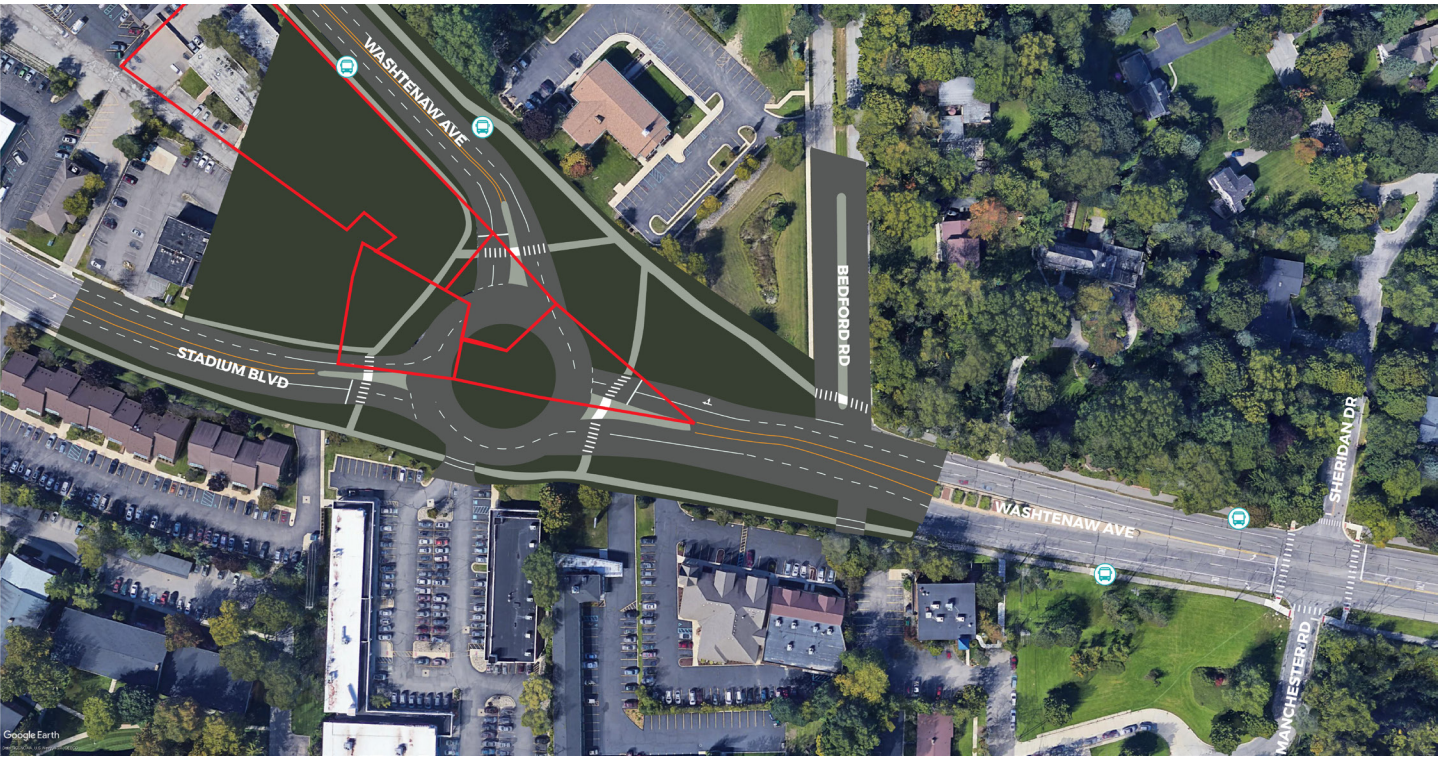
Traffic Volumes

- » 15,000 - 31,600 vehicles/day

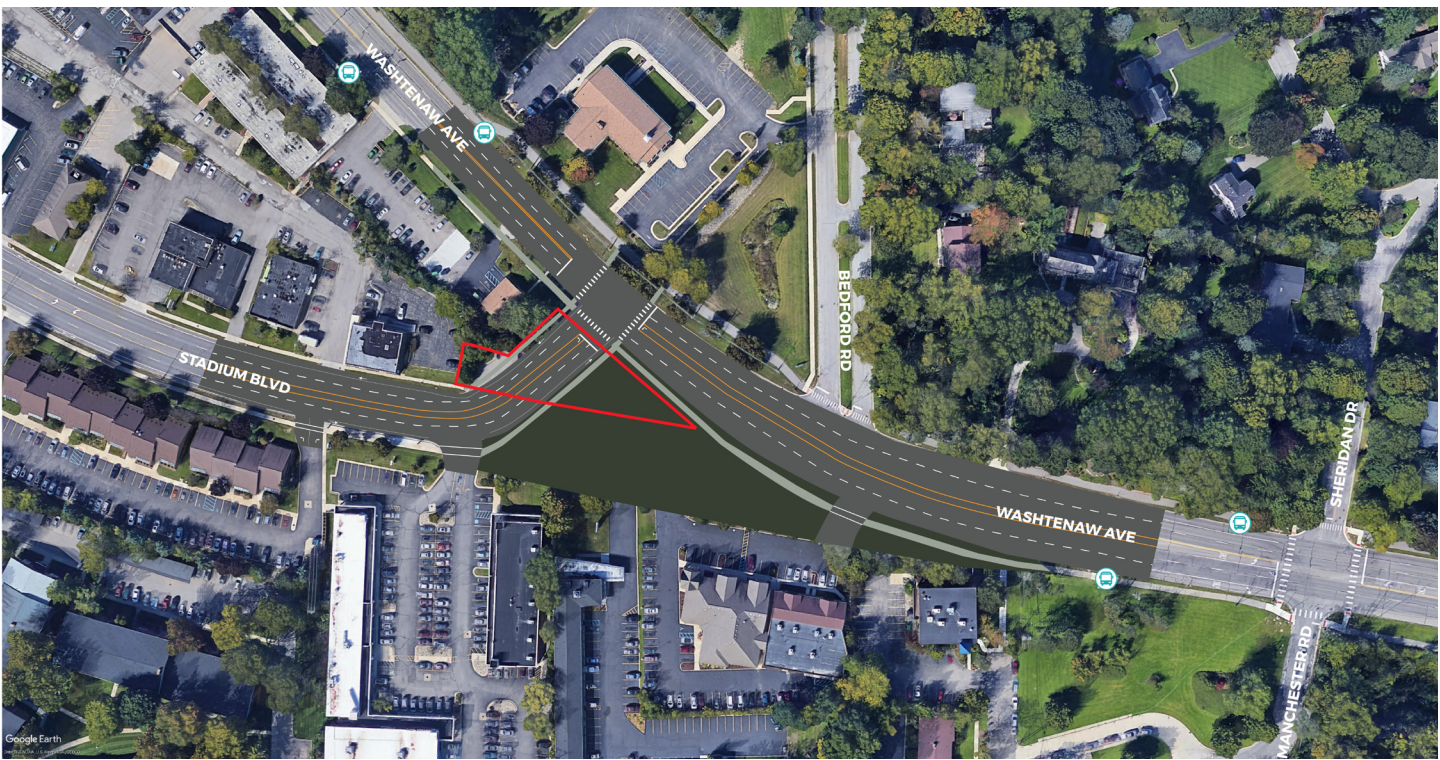
Existing (Washtenaw Avenue & Stadium Boulevard)



Proposed Roundabout Option (Washtenaw Avenue & Stadium Boulevard)



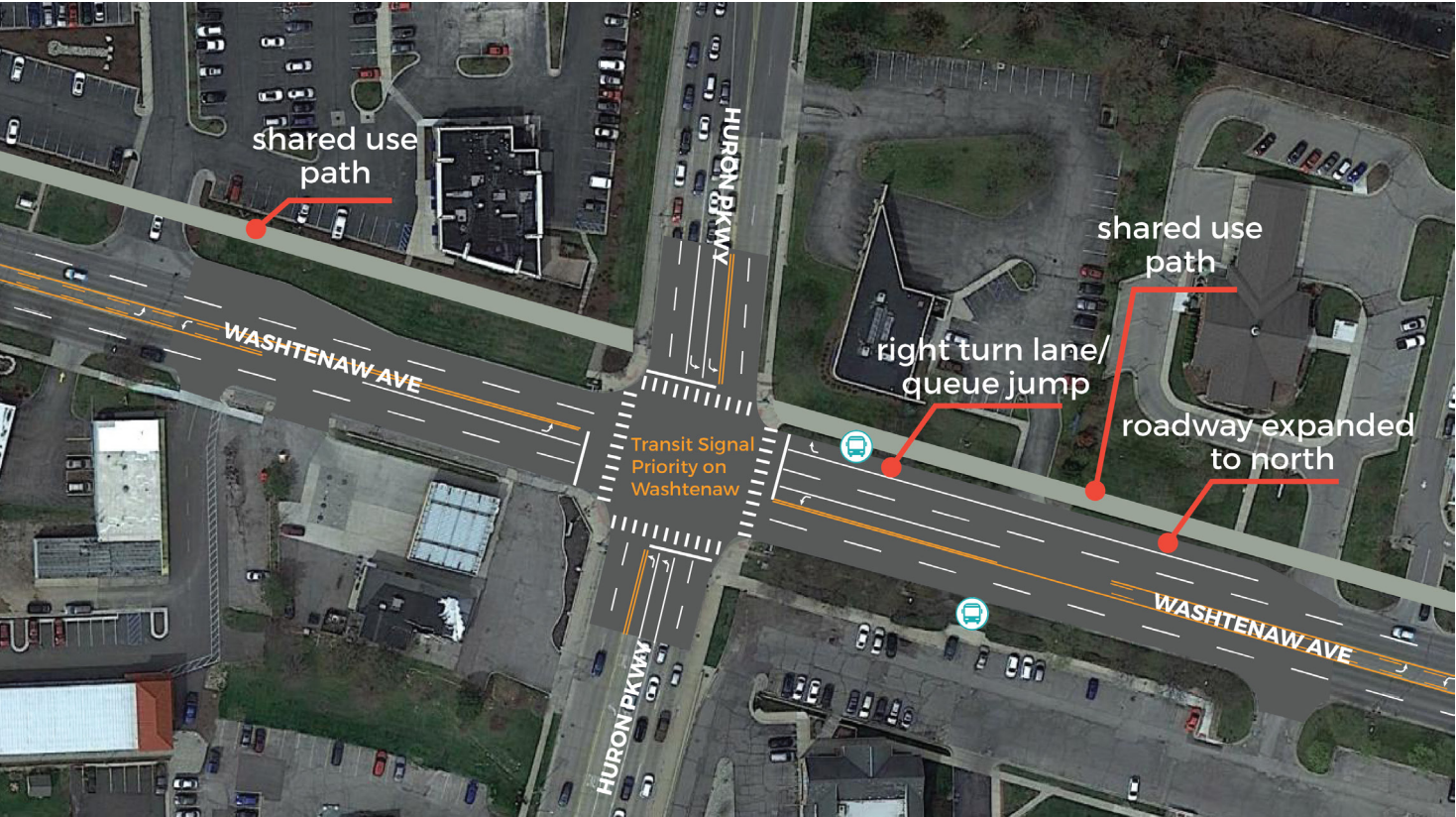
Proposed T-intersection Option (Washtenaw Avenue & Stadium Boulevard)



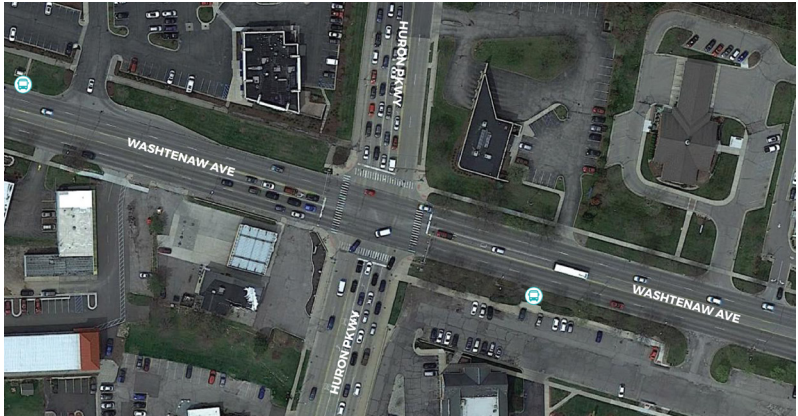
Washtenaw Avenue

Stadium Boulevard to US-23

Proposed (Washtenaw Avenue & Huron Parkway)



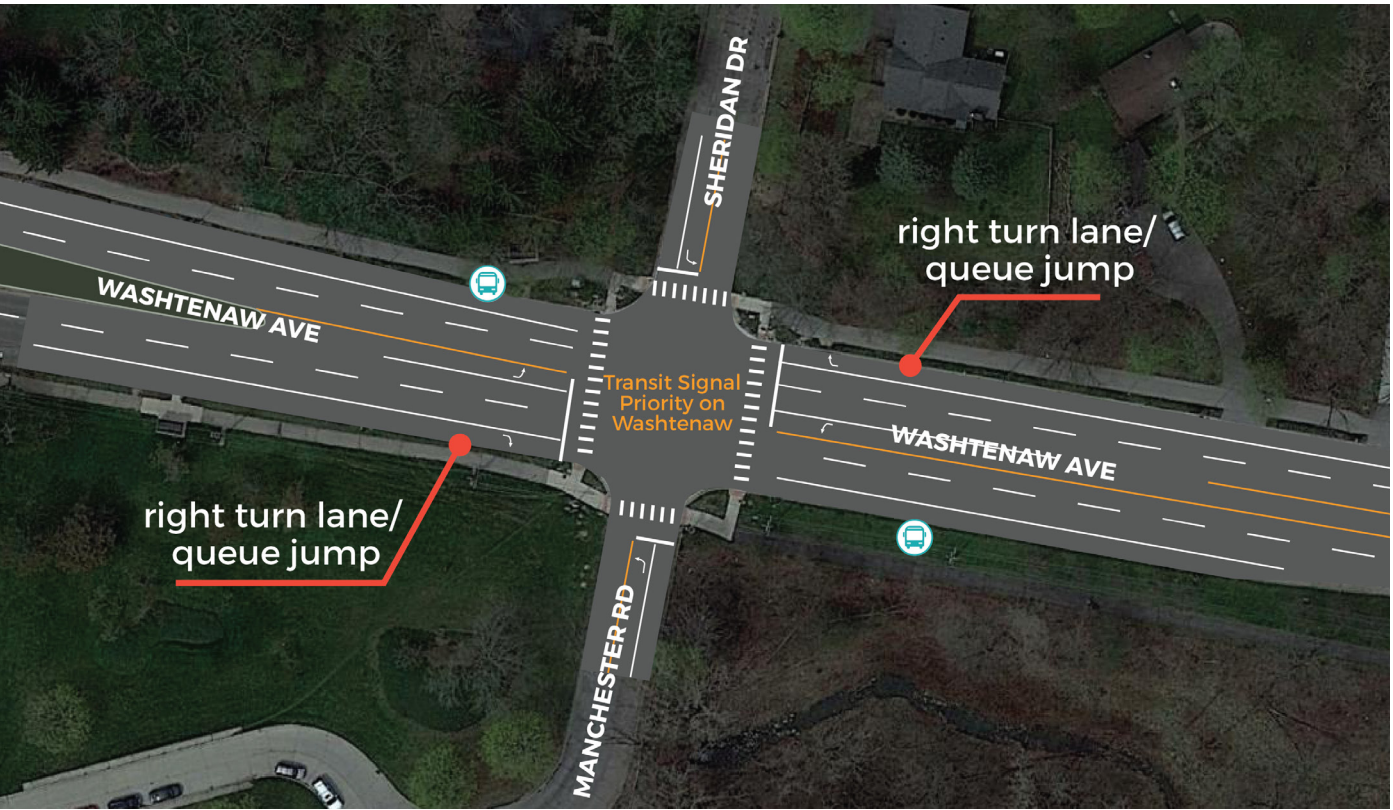
Existing (Washtenaw Avenue & Huron Parkway)



Existing (Washtenaw Avenue & Manchester Road)



Proposed (Washtenaw Avenue & Manchester Road)



Plymouth Road

Murfin Avenue to US-23

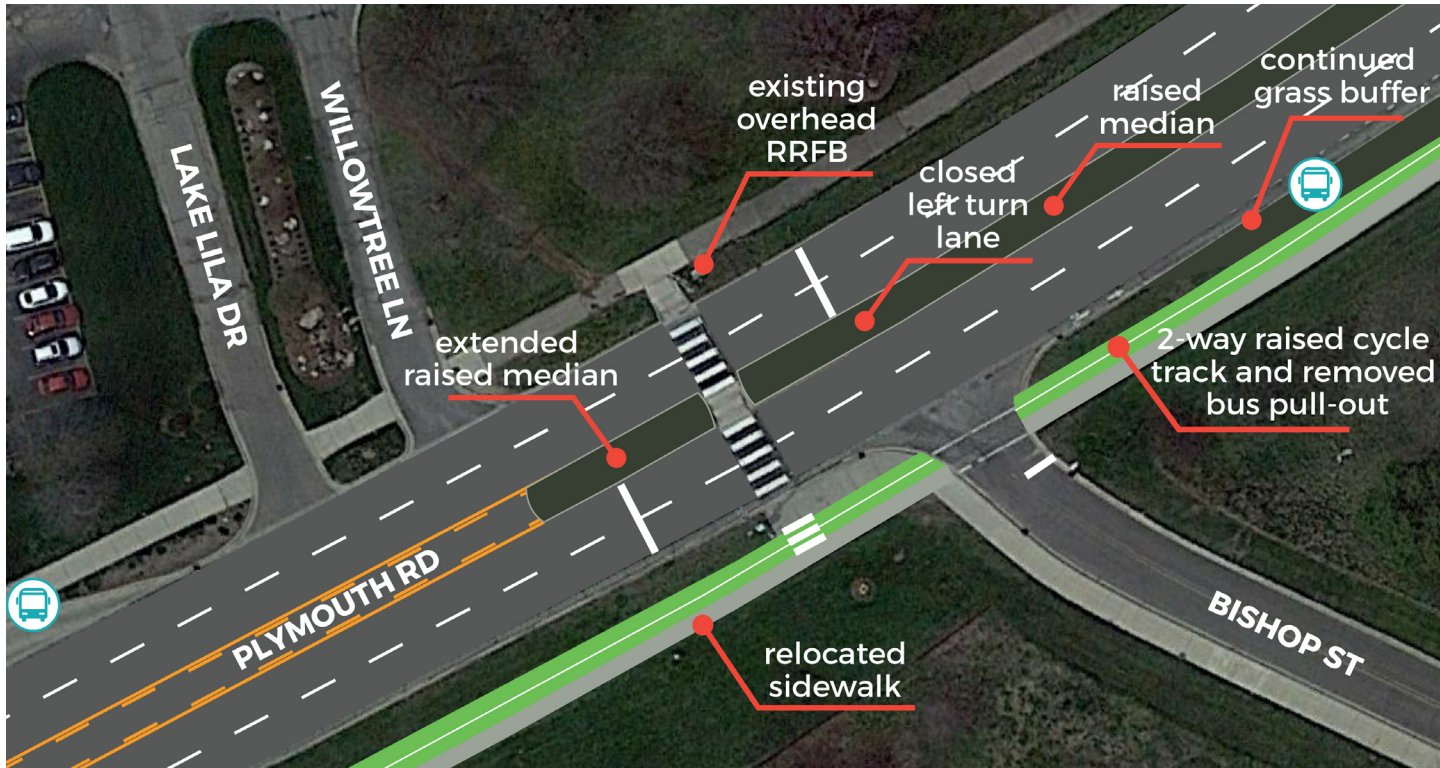
Primary objectives:

- » Provide a continuous and more comfortable bike route
- » Provide safer and more comfortable connections for pedestrians across Plymouth
- » Improve transit accommodations

Existing (Plymouth Road at Bishop Street)



Proposed (Plymouth Road at Bishop Street)



Current Conditions

Crashes (2014-2018)

- » 707 total crashes
- » 4 pedestrian or bicyclist serious injuries

Transit Service

- » 3 AAATA Routes (22, 23A/B, 65)

Bicycle and Pedestrian Accommodation

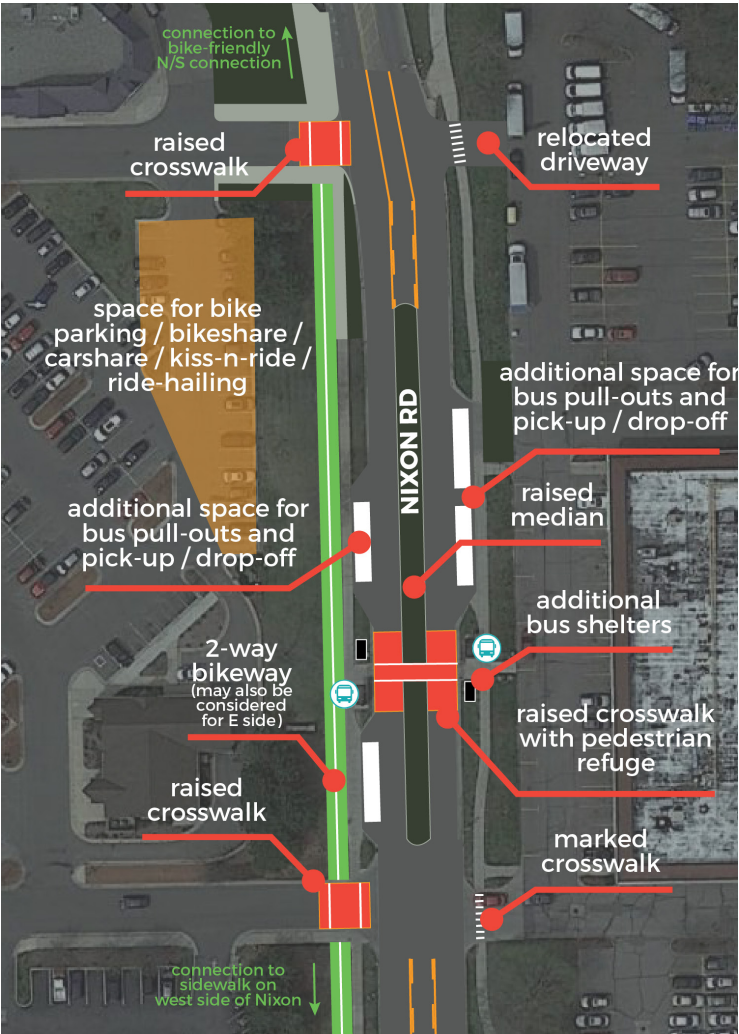
- » Bike lane and/or sidepath
- » Sidewalks
- » Bike Level of Traffic Stress (LTS) 3-4

Traffic Volumes

- » Pedestrian counts range from ~700/day at Murfin Avenue to ~500/day between Nixon to Huron Parkway to ~60/day at Green Road
- » 25,000 - 27,000 vehicles/day



Existing (Nixon Road Bus Stop)

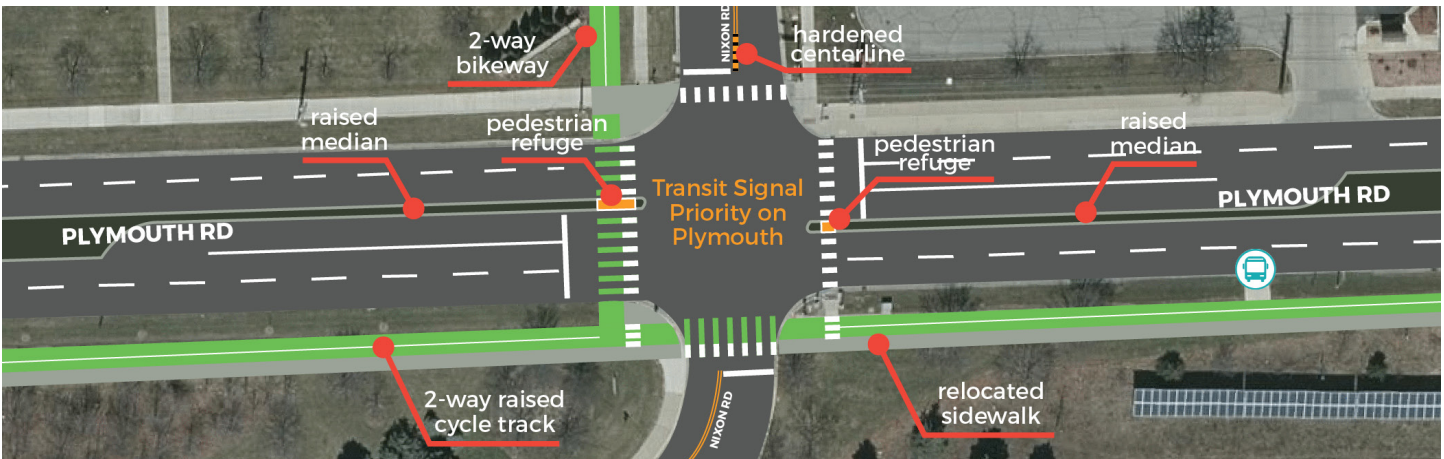


Proposed (Nixon Road Mobility Hub)

Existing (Plymouth Road at Nixon Road)



Proposed (Plymouth Road at Nixon Road)



S. Main Street

Huron Street to Ann Arbor-Saline Road

Objective: Prioritize completing a bike route and improving pedestrian safety and comfort

Current Conditions

Crashes (2014-2018)

- » 837 total crashes
- » 2 pedestrian or bicyclist serious injuries

Transit Service

- » 5 AAATA Routes (24, 25, 26, 28A/B, 64)

Bicycle and Pedestrian Accommodation

- » Bicycle LTS 3-4
- » Sidewalks throughout

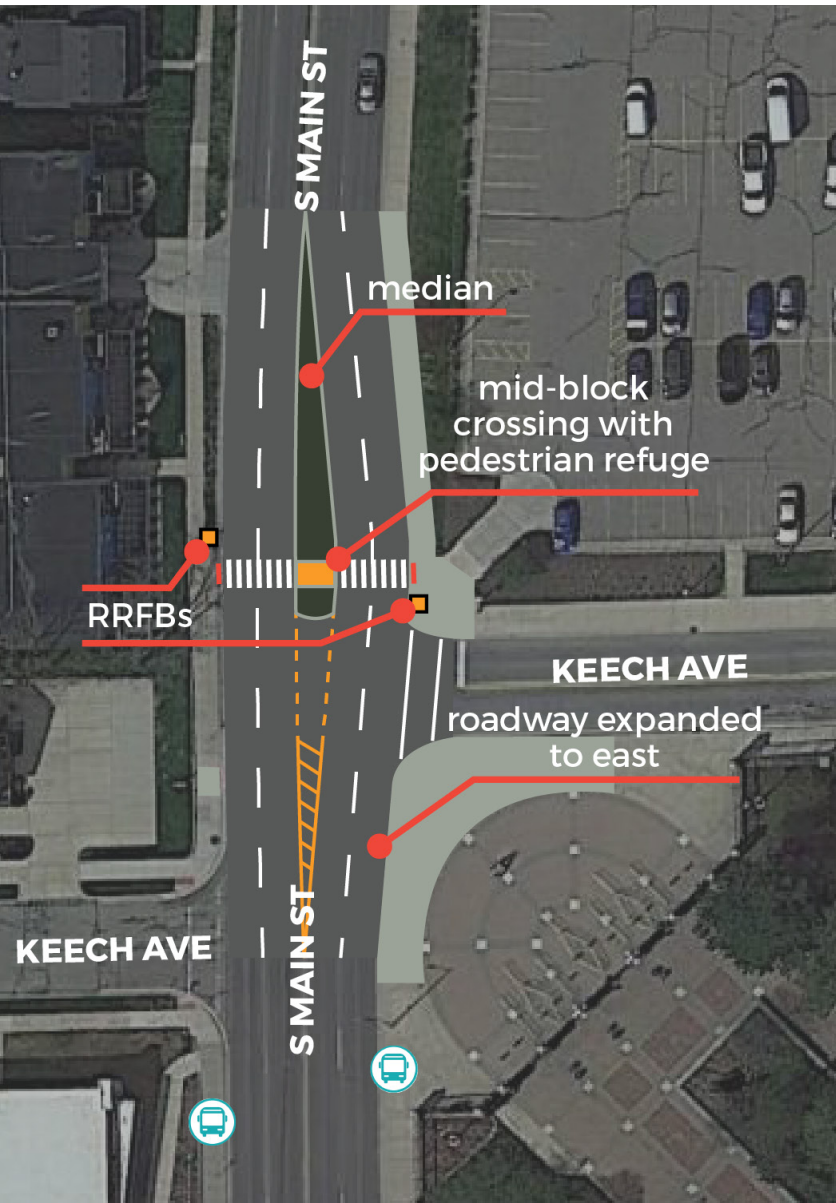
Traffic Volumes

- » 26,948 vehicles/day at Ann Arbor-Saline Road
- » 23,531 at Stadium Boulevard
- » 11,506 at William Street

Existing (Main Street at Keech Avenue)



Proposed (Main Street at Keech Avenue)



Proposed (Main Street at Madison Street)



Existing (Main Street at Madison Street)



S. Main Street

Huron Street to Ann Arbor-Saline

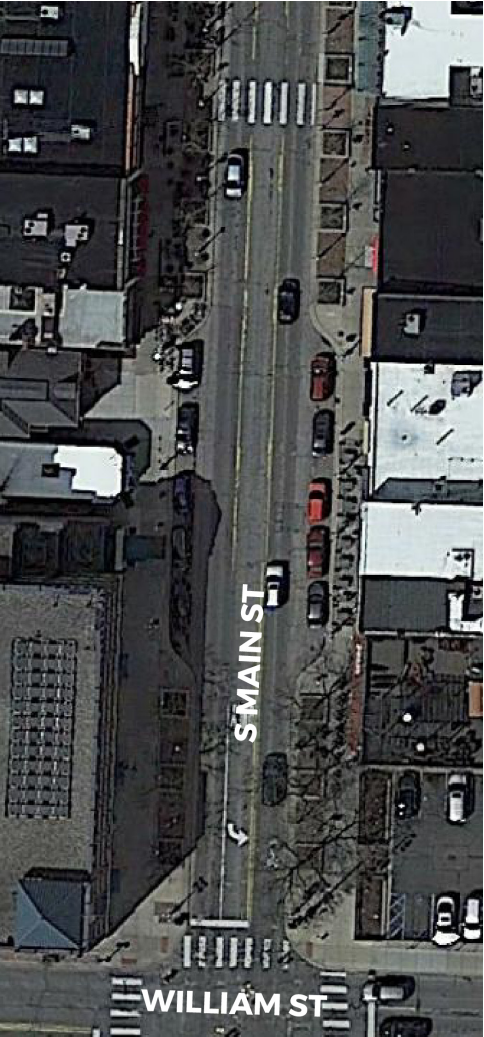
Proposed

(Main Street at William Street)



Existing

(Main Street at William Street)





Appendix B includes the following Project Lists:

- » Sidewalk Gaps
- » Uncontrolled Crosswalk Locations
- » Bike Intersections
- » Focus Corridors & Intersections
- » 2013 Non-Motorized Transportation Plan Long-Term Opportunities

B

PROJECT LISTS

Project Lists

Sidewalk Gaps

The city uses a variety of criteria to identify the highest priority sidewalk gaps the city should work to address first. Ann Arbor has been systematically installing new sidewalks based on the prioritization results from the 2013 Non-Motorized Transportation Plan (an update from the 2007 Non-Motorized Transportation Plan) and should begin prioritizing the remaining gaps along major streets. Where sidewalks cannot be constructed on a reasonable schedule, gaps in sidewalk coverage could be applied to lower priority gaps so that safety is improved in the near term while waiting for permanent upgrades.

Near-Term Sidewalk Gaps

Street	Miles	Street	Miles	Street	Miles
7th St	0.17	Emerald Ave	0.21	Nixon Rd	0.64
Ann Arbor Saline Rd	0.20	Fernwood St	0.42	Oakbrook Extensioin	0.59
Arlington Blvd	1.14	Fuller Rd		Olmesaad Dr	0.31
Barton Dr	0.35	Geddes Rd	1.12	Packard St	0.22
Barton Shore Dr	0.14	Green Rd	0.60	Page Ave	0.20
Beal Ave	0.40	Hilldale Dr	0.21	Platt Rd	0.13
Birch Hollow Dr	0.37	Hubbard St	0.16	Plymouth Rd	0.07
Bishop Ave	0.21	Huron River Dr	1.40	Pontiac Trl	0.79
Boardwalk St	0.21	Independence Blvd	0.33	Scio Church Rd	0.58
Brede Pl	0.04	Jackson Ave	0.65	Spring St	0.17
Brooks St	0.34	Jewett St	0.45	Stadium Blvd	0.52
Campus Dr	0.26	Jones Dr	0.41	State St	0.71
Cram Cir	0.34	Lakeshore Dr	0.07	Stone School Rd	0.83
Depot St	0.25	Liberty Rd	0.77	Sunset Rd	1.08
Devonshire Rd	0.89	Liberty St	0.21	Traver Rd	0.76
Dexter Ave	0.36	Maiden Ln	0.27	Victoria Ave	0.07
Dexter Rd	0.86	Main St	1.21	Victors Way	0.22
Dhu Varren Rd	1.36	Maple Rd	0.84	Wagner Rd	0.29
Duffield Dr	0.07	McIntyre St	0.62	Washtenaw Ave	0.28
Earhart Rd	1.23	Miller Ave	0.41	Wildt St	0.13
Edgewood Dr	0.31	Miller Rd	0.56		
Eisenhower Pl	0.06	Murfin Ave	0.22		
Ellsworth Rd	1.43	Newport Rd	0.20		



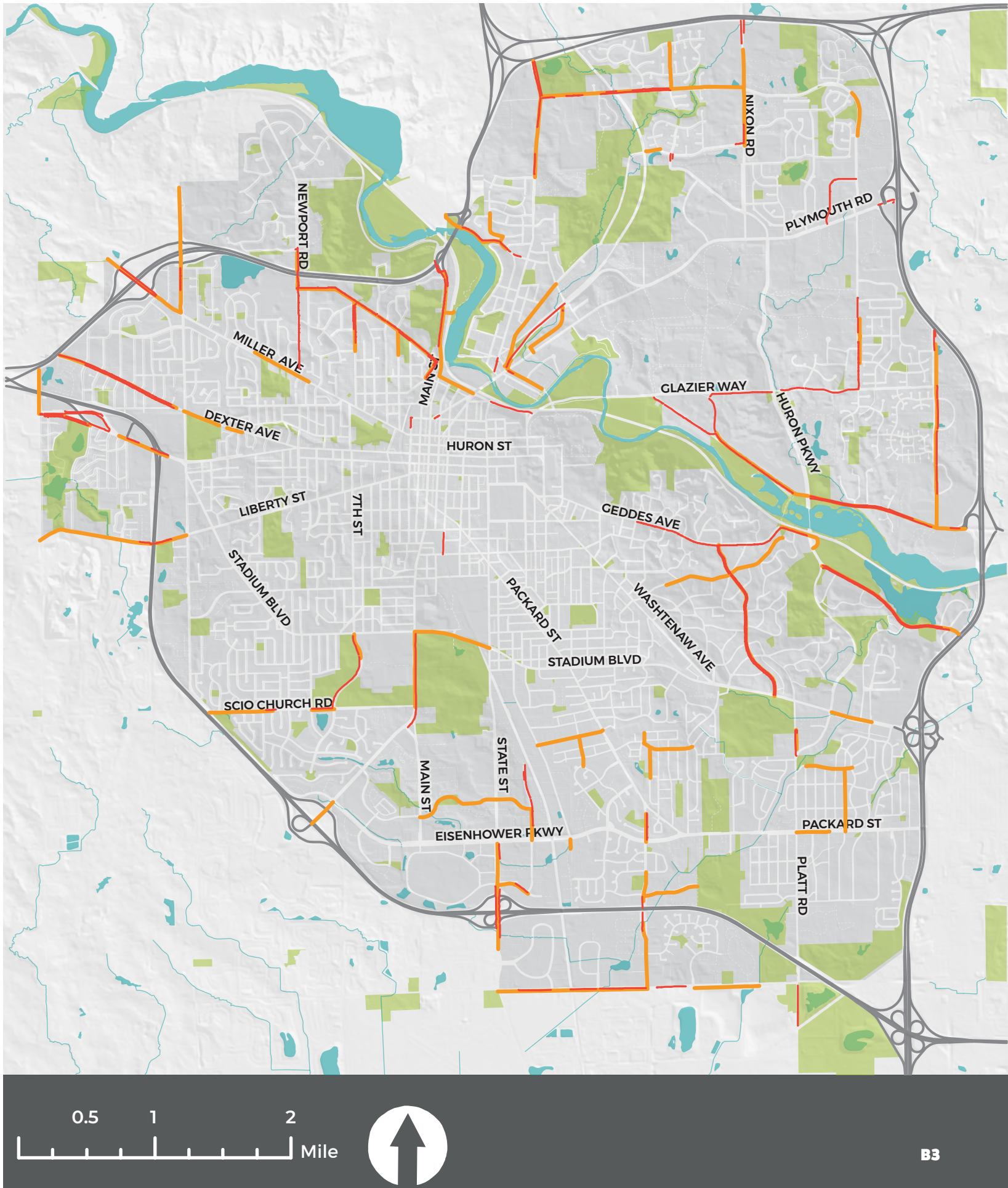
Sidewalk Gaps Along Major Streets

Street	Miles
1st St	0.02
Arlington Blvd	2.32
Barton Dr	0.44
Boardwalk Dr	0.40
Briarwood Cir	0.31
Broadway St	0.02
Brooks St	0.39
Commonwealth Blvd	0.35
Devonshire Rd	0.23
Dexter Rd	1.51
Dhu Varren Rd	1.28
Earhart Rd	0.51
Ellsworth Rd	1.21
Fourth Ave	0.02
Fuller Ct	0.60
Fuller Rd	1.18
Geddes Ave	1.06
Geddes Rd	1.71
Glazier Way	0.58
Green Rd	0.70
Huron Parkway	0.03
Huron River Dr	1.92
Jackson Ave	1.39
Kingsley St	0.22
Leslie Park Cir	0.11
Liberty St	0.18
Madison St	0.14
Maiden Ln	0.02
Main St	0.97

Street	Miles
Maple Rd	0.15
Miller Ave	0.67
Newport Rd	0.78
Nixon Rd	0.23
Platt Rd	0.02
Plymouth Rd	0.66
Pontiac Trl	0.59
Scio Church Rd	0.20
Shadowood Dr	0.01
Stadium Blvd	1.03
State St	0.42
Stone School Rd	0.30
Sunset Rd	1.36
Traver Blvd	0.03
Traver Rd	0.07
Victors Way	0.10
Wasthenaw Ave	0.17
Wildt St	0.04

Critical Sidewalk Gaps

- Near-Term Sidewalk Gaps
- Sidewalk Gaps along Major Streets



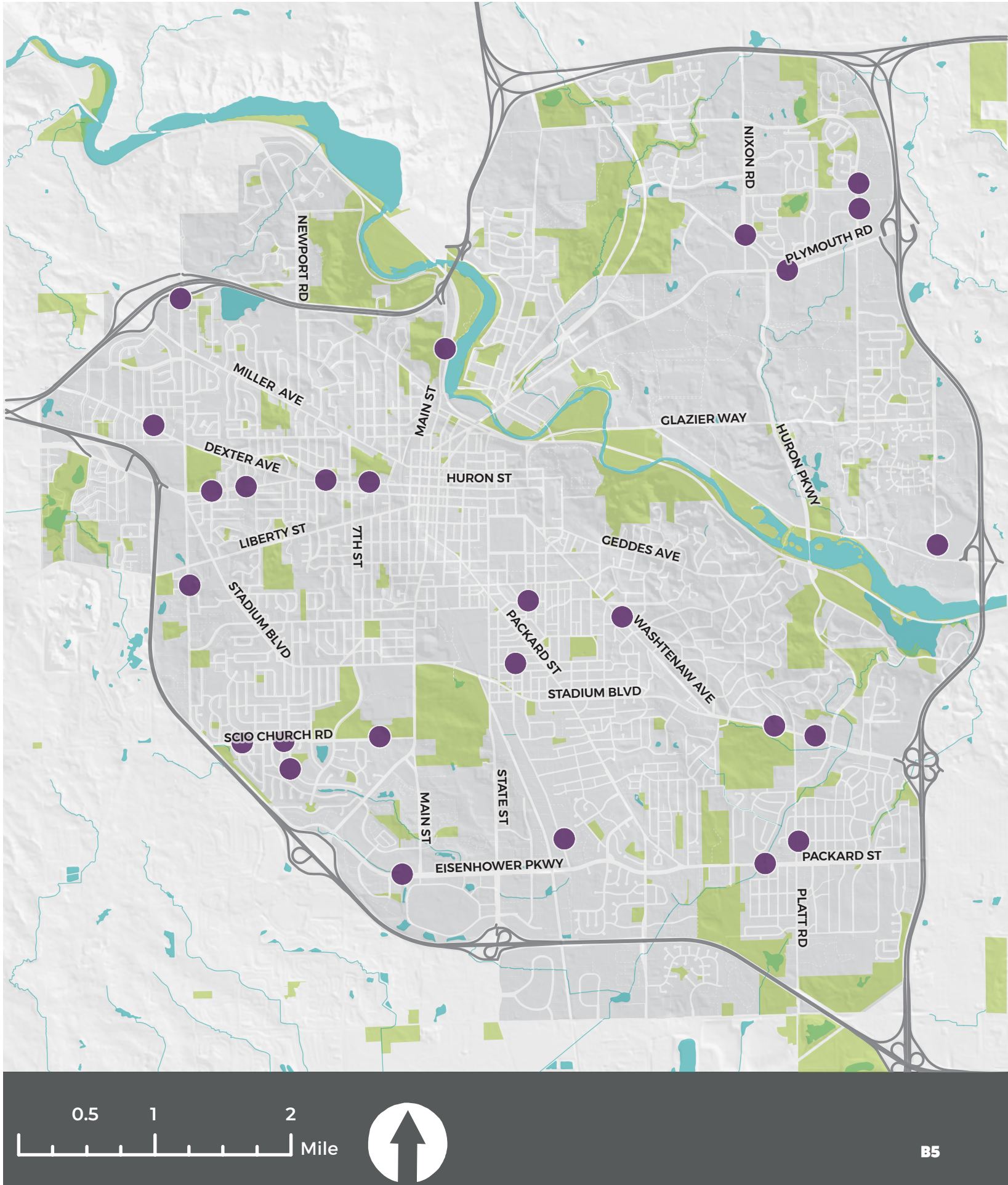
Uncontrolled Crosswalk Locations

In addition to enhancing existing uncontrolled crosswalks, there are still locations around the city that require new uncontrolled crosswalks to increase convenience and safety for people walking. The Pedestrian Crossing Survey included a map-based activity where respondents could identify places where new crosswalks are needed. Using this input, 26 priority locations for new uncontrolled crosswalks were identified based on the location’s distance from an existing crosswalk or signalized intersection and crash history.

Intersection
Scio Church Rd & Covington Dr
Scio Church Rd & Winsted Ct
Scio Church Rd & Marra Dr
Washtenaw Ave& Arlington Blvd
Washtenaw Ave between Huron Pkwy & Glenwood Rd
Platt Rd & Norwood St
Packard St between Chesterfield Dr & Nordman Rd
Industrial Hwy at AAATA/ TheRide Office
Delaware Dr & Mershon Dr
Dexter Ave & Center Dr
Maple Rd & Foss St
University Ave & Oakland Ave
Earhart Rd at Concordia University Stadium
Plymouth Rd & Prairie St
Green Rd at United States Postal Service south of Burbank Dr
Main St between Depot St & Huronview Blvd
Jackson Ave & Virginia Ave
Huron St & Arbana Dr
Huron St between 7th St & 3rd St
Nixon Rd at Sandalwood Cir (Enhance)
Granger Ave between White St & Packard St
Maple St & Russell St
Jackson Ave & Burwood Ave
Washtenaw Ave & Wayne St
Eisenhower Pkwy at Cranbrook Park Trail
Green Rd & Commonwealth Blvd

Priority of Locations for New Uncontrolled Crosswalks

New Uncontrolled Crosswalks



Bike Intersections

The following key bike intersections interventions will have the biggest impact on improving the overall bike network, both in terms of safety and connectivity. Key intersections (11 high priority intersections and 68 secondary priority intersections) along the proposed all ages and abilities bike network were identified.

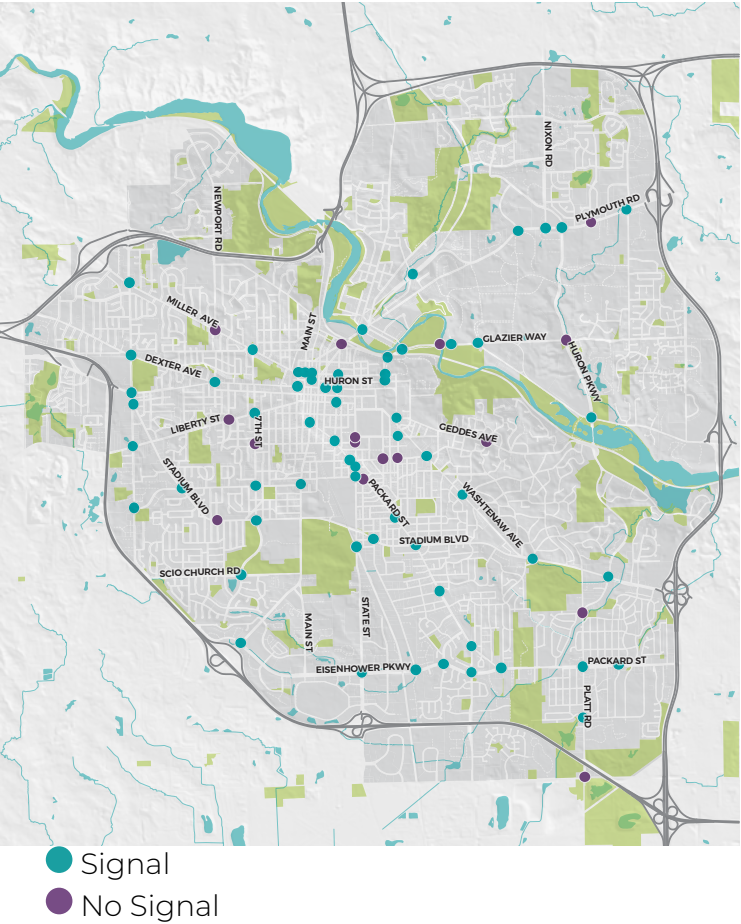
Intersection	Type
Platt Rd & Ellsworth Rd	Major, Unsignalized
Platt Rd & Lorraine St	Major, Signalized
Eisenhower Pkwy & State St	Major, Signalized
Eisenhower Pkwy & Stone School Rd	Major, Signalized
Eisenhower Pkwy & Industrial Hwy	Major, Signalized
Eisenhower Pkwy & Packard St	Major, Signalized
Packard St & Platt Rd	Major, Signalized
Eisenhower Pkwy & King George Rd	Minor, Signalized
Packard St & Fernwood Ave	Major, Signalized
Eisenhower Pkwy & Ann Arbor Saline Rd	Major, Signalized
Packard St & Stone School Rd	Major, Signalized
Platt Rd & Canterbury Rd	Major, Unsignalized
Packard St & Jewett Ave	Major, Signalized
Scio Church Rd & 7th St	Major, Signalized
Washtenaw Ave & Huron Pkwy	Major, Signalized
Washtenaw Ave & Sheridan Dr	Major, Signalized
State St & Stimson St	Major, Signalized

Intersection	Type
Packard St & Stadium Blvd	Major, Signalized
Stadium Blvd & Industrial Hwy	Major, Signalized
Stadium Blvd & Ardmoor Ave	Major, Unsignalized
Maple Rd & Pauline Blvd	Minor, Signalized
Washtenaw Ave & Devonshire Rd	Major, Signalized
Stadium Blvd & Pauline Blvd	Major, Signalized
Stadium Blvd & 7th St	Major, Signalized
Pauline Blvd & S Main St	Major, Signalized
Packard St & Arch St	Major, Unsignalized
State St & Hoover Ave	Major, Signalized
Packard St & Arbor St	Major, Signalized
Packard St & Hill St	Major, Signalized
E University Ave & Hill St	Major, Unsignalized
Hill St & Forest Ave	Major, Unsignalized
Washtenaw Ave & Hill St	Major, Signalized
Liberty St & Maple Rd	Major, Signalized
Madison St & 7th St	Minor, Unsignalized
Madison St & State St	Major, Unsignalized
Packard St & Division St	Major, Signalized
State St & University Ave	Major, Unsignalized
Packard St & S Main St	Major, Signalized
Liberty St & Crest Ave	Major, Unsignalized
Geddes Ave & Washtenaw Ave	Major, Signalized
Liberty St & 7th St	Major, Signalized
Geddes Rd & Huron Pkwy	Major, Signalized
Stadium Blvd & Maple Rd	Major, Signalized

Intersection	Type
Maple Rd & Jackson Ave	Major, Signalized
Huron St & Division St	Major, Signalized
Huron St & 5th Ave	Major, Signalized
Huron St & 1st St	Major, Signalized
Huron St & Revena Rd	Major, Signalized
Division St & Ann St	Minor, Unsignalized
Ann St & Main St	Major, Signalized
Ann St & Glen Ave	Major, Signalized
Catherine St & Division St	Minor, Signalized
Catherine St & Glen Ave	Major, Signalized
Catherine St & Miller Ave	Major, Signalized
Miller Ave & Ashley St	Major, Signalized
Maple Ave & Dexter St	Major, Signalized
Fuller St & Fuller Rd	Major, Signalized
Miller Ave & 7th St	Minor, Signalized
Fuller Rd & Medical Center Drive	Major, Signalized
Fuller Rd over Huron River	Major, Unsignalized
Fuller Rd & Cedar Bend Dr	Major, Signalized
Division St & Beakes St/ Broadway St	Minor, Unsignalized
Fuller Rd & Fuller Ct/ Bonisteel Blvd	Major, Signalized
Miller Ave & Newport Rd	Minor, Unsignalized
Broadway St & Pontiac Trail	Major, Signalized
Miller Ave & Maple Rd	Major, Signalized
Plymouth Rd & Barton Dr	Major, Signalized
Plymouth Rd & Traverwood Dr	Major, Signalized
Plymouth Rd & Traverwood Dr	Major, Signalized

Intersection	Type
Plymouth Rd & Huron Pkwy	Major, Signalized
Plymouth Rd & Georgetown Blvd	Major, Unsignalized
Plymouth Rd & Green Rd	Major, Signalized
Pauline Blvd & 7th St	Minor, Signalized
Packard St & Granger Ave	Major, Signalized
Geddes Ave & Hill St	Minor, Unsignalized
S University Ave & Forest Ave	Minor, Signalized
Liberty St & Division St	Minor, Signalized
Miller Ave & 1st St	Major, Signalized
Glazier Way & Huron Pkwy	Minor, Unsignalized

Key Intersections for People Biking



Focus Corridors & Intersections

The focus corridors and intersections referenced in Strategy 1 are listed below:

Tier 1 Focus Corridors

- 1. Plymouth Road (Murfin Avenue to US-23)
- 2. Miller Avenue (Downtown to M-14)
- 3. Washtenaw Avenue (Huron Street to US-23)
- 4. S Main Street (Huron Street to Eisenhower Parkway)
- 5. S State Street (Huron Street to Ellsworth Road)
- 6. Packard Street (Main Street to Stone School Road)
- 7. Division Street (Liberty Street to Hoover Street)

Tier 2 Focus Corridors

- 1. Ann St (N Main Street to Observatory Street)
- 2. Catherine Street (N Main Street to UM Medical Center)
- 3. Liberty Street (S Main Street to S State Street)
- 4. Washington Street (S Main Street to Fletcher Street)
- 5. Fuller Street (Bonisteel Boulevard to Depot Street)
- 6. Geddes Avenue (N University Avenue to Huron Parkway)
- 7. Glen Avenue (Huron Street to Fuller Street)
- 8. N University Avenue (S State Street to Geddes Avenue)
- 9. Fifth Avenue (Huron Street to Hill Street)

- 10. S University Avenue (S State Street to Oxford Road)
- 11. Eisenhower Parkway (Main Street to Packard Road)
- 12. Ellsworth Road (S State Street to US-94)
- 13. Huron Street (Main Street to Washtenaw Avenue)
- 14. Stadium Boulevard (S Main Street to Washtenaw Avenue)
- 15. Hill Street (S Main Street to Geddes Avenue)
- 16. Huron Parkway (Tuebingen Parkway to Washtenaw Avenue)
- 17. N Main Street (Huronview Boulevard to Huron Street)
- 18. Maple Road (M-14 to Jackson Avenue)
- 19. Packard Road (Stone School Road to US-23)
- 20. Platt Road (Washtenaw Avenue south to city border)
- 21. Huron Street (Revena Boulevard to Main Street)
- 22. Liberty Street (Wagner Road to S Main Street)
- 23. Stadium Boulevard (Maple Road to S Main Street)

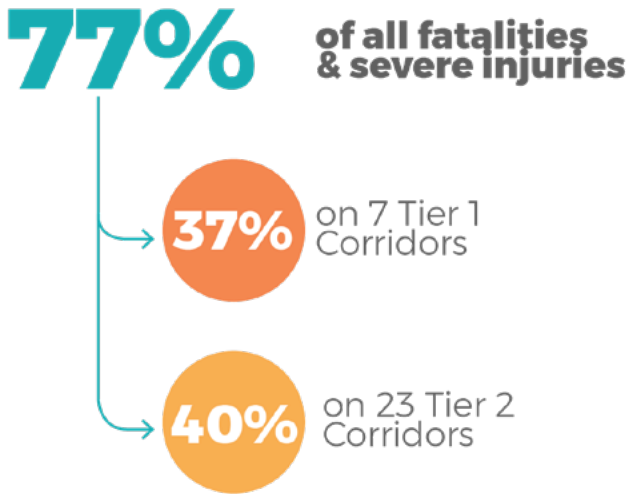
Tier 1 Focus Intersections

- 1. Washtenaw Avenue and Platt Street
- 2. Washtenaw Avenue and Devonshire Street
- 3. Washtenaw Avenue and Hill Street
- 4. Washtenaw Avenue and Geddes Avenue
- 5. State Street and Huron Street
- 6. S State Street and N University Avenue
- 7. S State Street and S University Avenue
- 8. Liberty Street and Division Street
- 9. Fuller Road and Glen Avenue
- 10. Ann Street and Glen Avenue
- 11. 1st Street and Huron Street

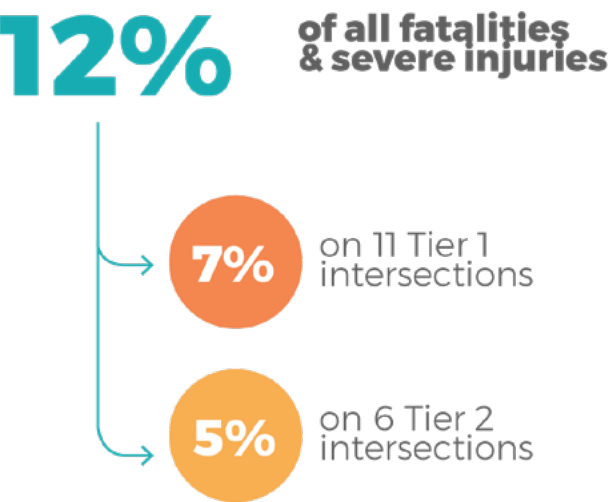
Tier 2 Focus Intersections

- 1. Packard Street & Platt Road
- 2. Washtenaw Avenue & Stadium Boulevard
- 3. Ellsworth Road & Platt Road
- 4. Division Street & Huron Street
- 5. Forest Avenue & Hill Street
- 6. Main Street & Catherine Street

Focus Corridors



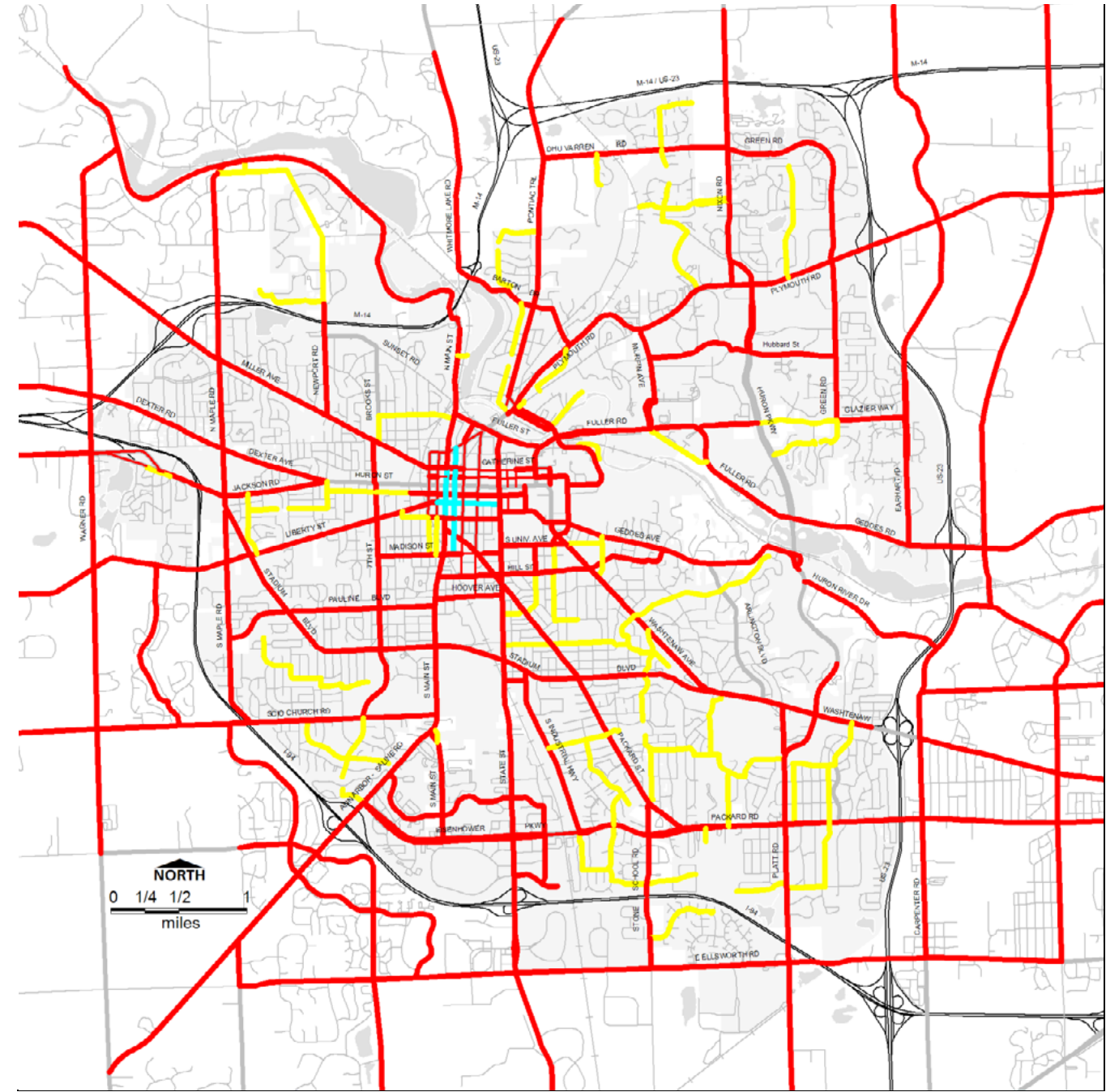
Focus Intersections



2013 Long-Term Opportunities

The following maps present the long-term opportunities identified in the 2013 Non-Motorized Transportation Plan. These are incorporated here for reference and for consideration of future investments.

In-Road Bicycle Facilities

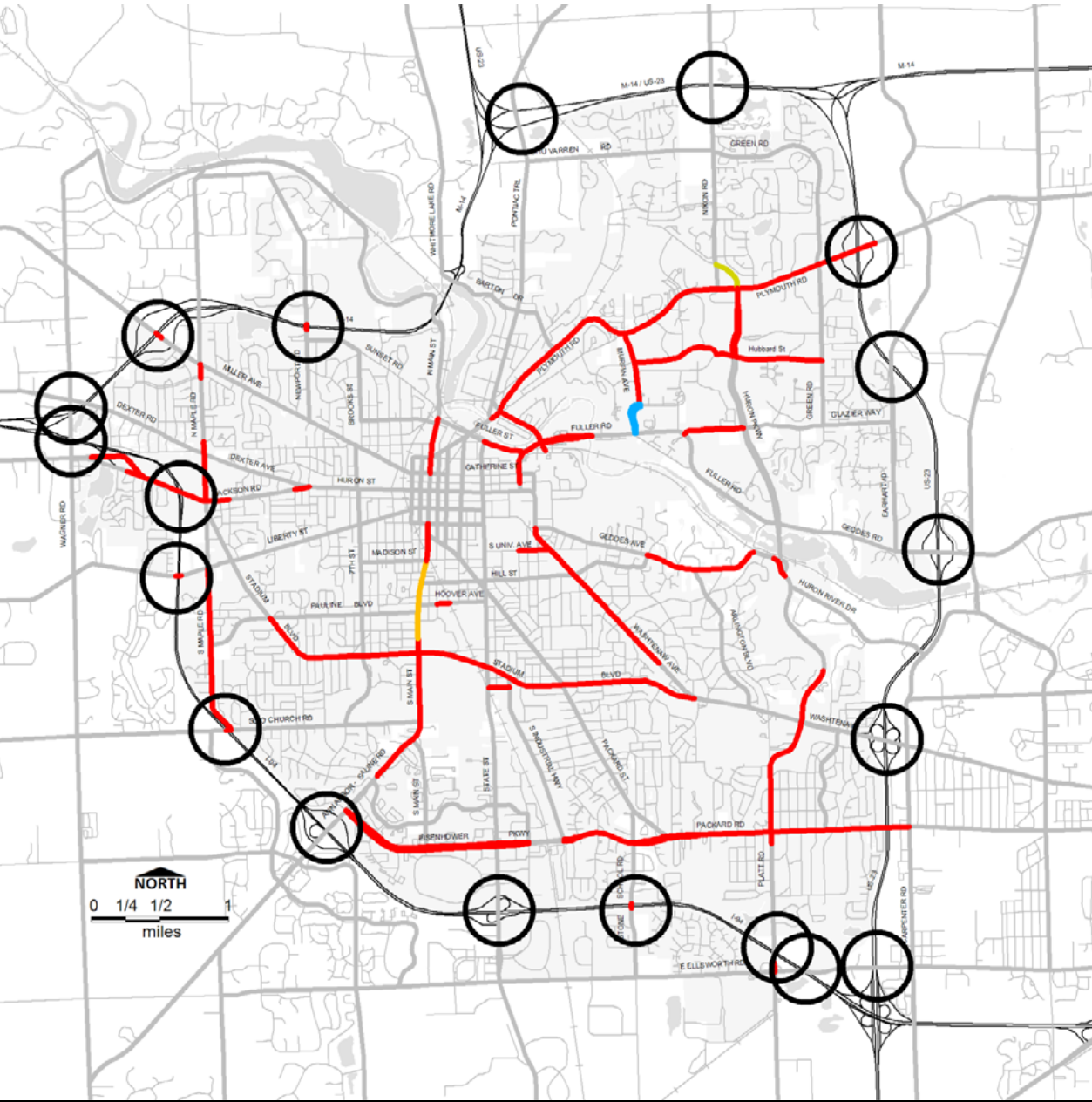


Legend

- Long-term In-Road Bike Facilities
- Bike Lane One Side
 - Bike Lanes
 - Bike Route
 - Shared-use Arrow

The Long-term Plan proposes a total of 76 miles of Bike Lanes in the City on the primary road system. This would result in Bike Lanes on 85% of the primary road system.

Road Modifications



Legend

- Long-term Road Modifications:
- 4 to 3 Lane Conversion
 - 5 to 3 Lane Conversion
 - Eliminate 1 Lane
 - Minor Road Widening to Accommodate Bike Lanes
- Freeway Overpass or Interchange Under MDOT's Jurisdiction

Some of the roads indicated for widening in the Long-term such as Packard Road and parts of Stadium Boulevard are candidates for adding Bicycle Lanes in the Near-term Opportunities through narrowing the lanes if sub-11' motor vehicle lanes are considered acceptable for these roads.



Parking Modifications

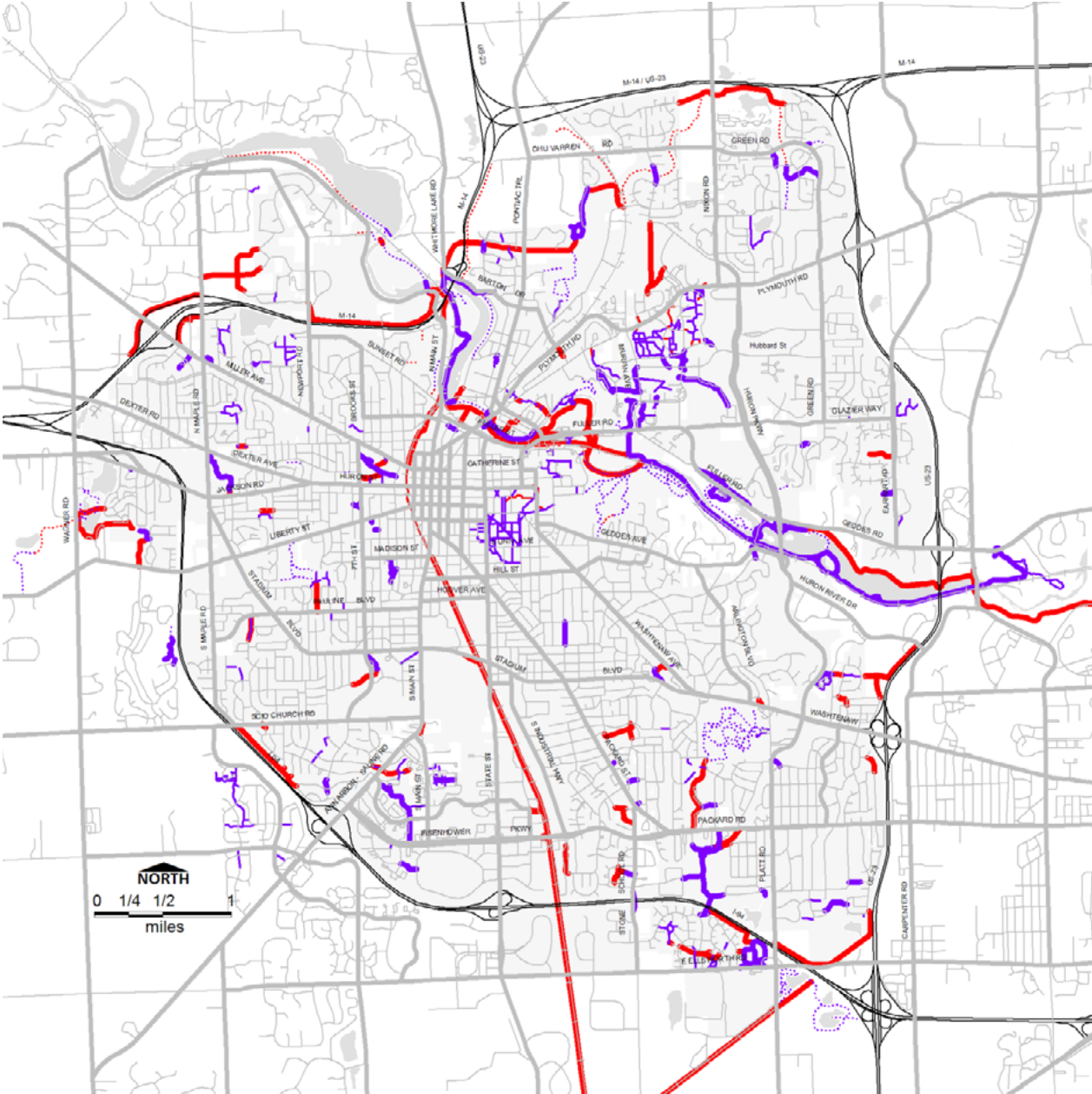


Legend

- Long-term Parking Changes:
- Remove Parking on 1 Side

As bicycle use increases downtown it may be desirable to remove some on-street parking to make room for additional bike lanes on key corridors.

Off-Road Paths and Walks



Legend

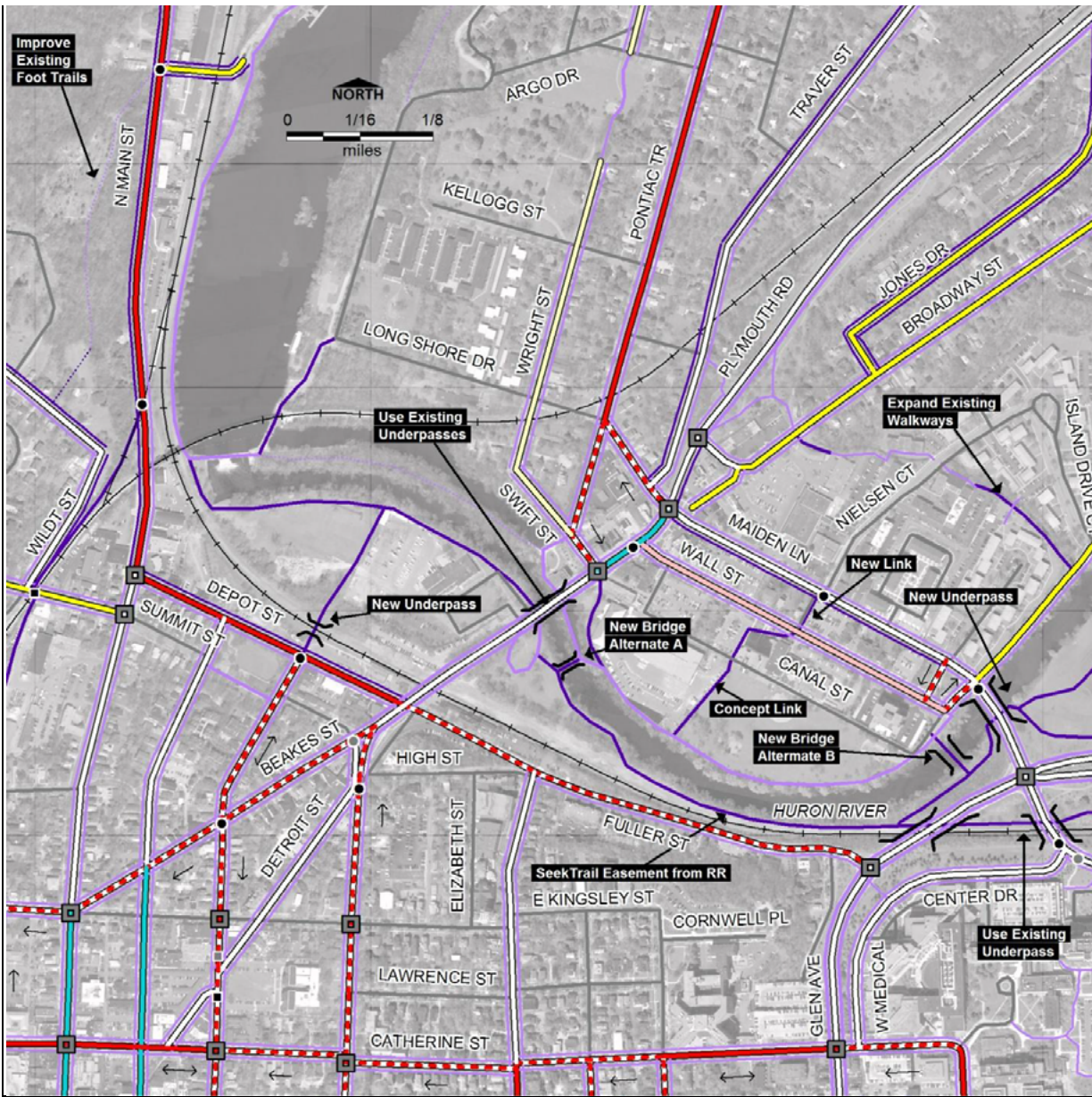
- Off-road Paths and Walks:
- Existing Foot Trail
 - Existing Shared-use Path
 - Existing Walk
 - Proposed Foot Trail
 - Proposed Shared-use Path
 - Proposed Walk

The routing of some of the paths shown is conceptual and requires further refinement. The surface of the Proposed Shared-use Paths is not defined in this study. Appropriate surfaces include asphalt, concrete, crushed fines and stabilized fines.

The highlighted key Off-Road Pathways are discussed on the following page.



West Riverfront Detail



Legend:

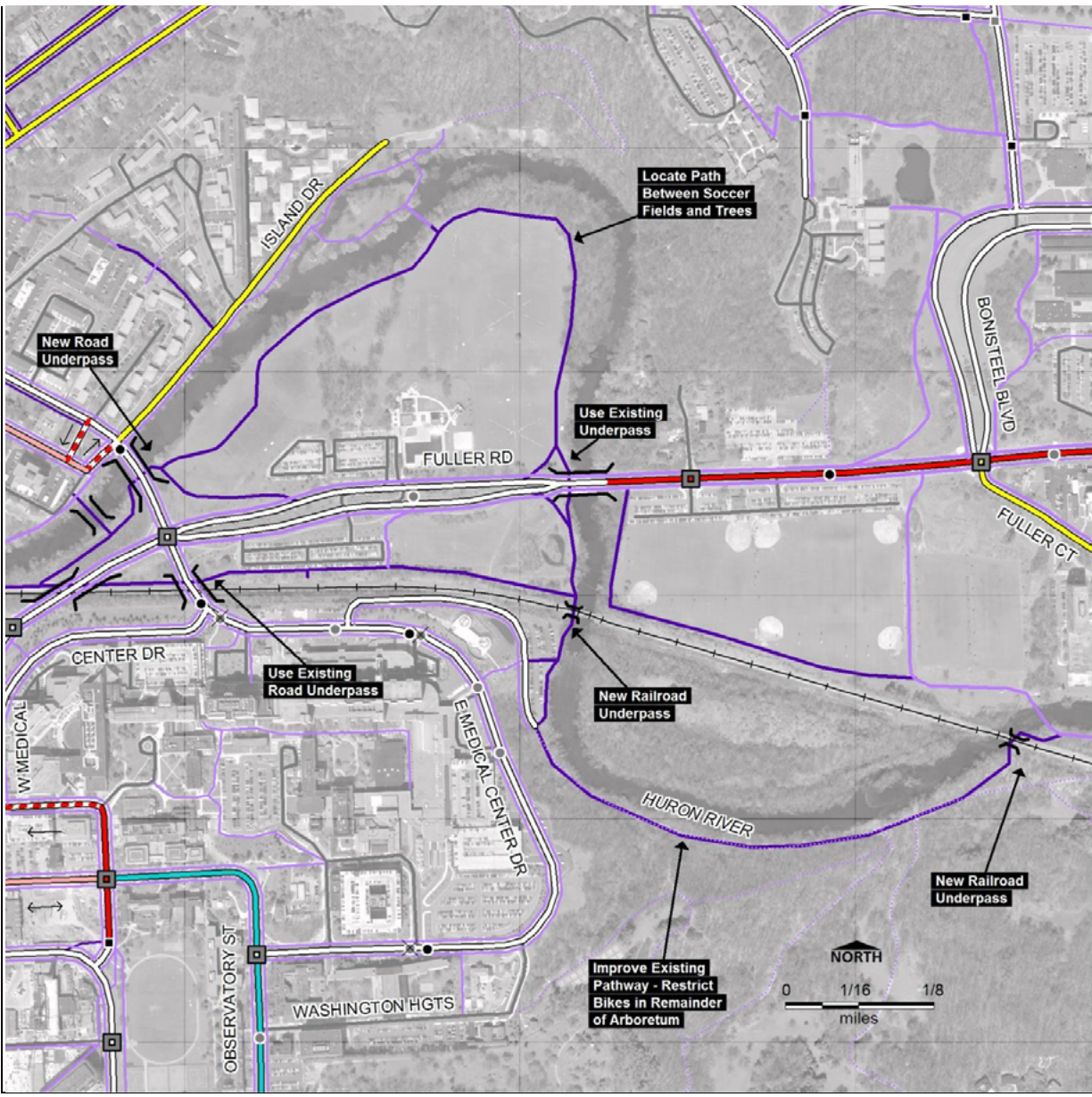
Existing: Proposed:

- Signalized Crosswalk
- Major Mid-block Crossing
- Minor Mid-block Crossing
- Remove Crosswalk
- Grade Separated Crossing
- Bicycle Lanes
- Bicycle Lane, 1 Side Only
- Signed Bike Route
- Shared-use Arrow

Existing: Proposed:

- Sidewalk / Walkway (< 8' wide)
- Shared-use Path (8 - 10' wide) includes Bridges and Boardwalks
- Foot Trail
- Local Road
- Freeway
- Railroad
- No Improvements Near-term

Central Riverfront Detail



Legend:

Existing: Proposed:

- Signalized Crosswalk
- Major Mid-block Crossing
- Minor Mid-block Crossing
- Remove Crosswalk
- Grade Separated Crossing
- Bicycle Lanes
- Bicycle Lane, 1 Side Only
- Signed Bike Route
- Shared-use Arrow

Existing: Proposed:

- Sidewalk / Walkway (< 8' wide)
- Shared-use Path (8 - 10' wide) includes Bridges and Boardwalks
- Foot Trail
- Local Road
- Freeway
- Railroad
- No Improvements Near-term





Appendix C includes summaries from surveys, events, community advisory committee meetings, and focus groups.

C

PUBLIC ENGAGEMENT SUMMARY

Public Engagement

Appendix C reviews the following public engagement efforts:

1. Surveys

Over the planning process, various surveys were distributed including:

- » Transportation Habits Survey
- » Bicycling Preferences Survey
- » Bicycle Network Survey
- » Pedestrian Crossing Survey
- » Focus Corridors

Both a University of Michigan survey and Ann Arbor Public School activity were planned for spring 2020. However, due to the COVID-19 pandemic, the student outreach were unable to take place.

2. Events

In addition to pop-up meetings and a walkshop, there were three open houses during the planning process. The final open house took place virtually as it coincided with the COVID-19 pandemic.

- » Open House 1 (City Hall)
- » Open House 2 (City Hall)
- » Open House 3 (Virtual)
- » Pop Up 1 (Mayor’s Green Fair)
- » Pop Up 2 (Peace Neighborhood)
- » Walkshop

3. CAC Meetings

- » CAC Meeting 1
- » CAC Meeting 2
- » CAC Meeting 3
- » CAC Meeting 4

4. Focus Groups



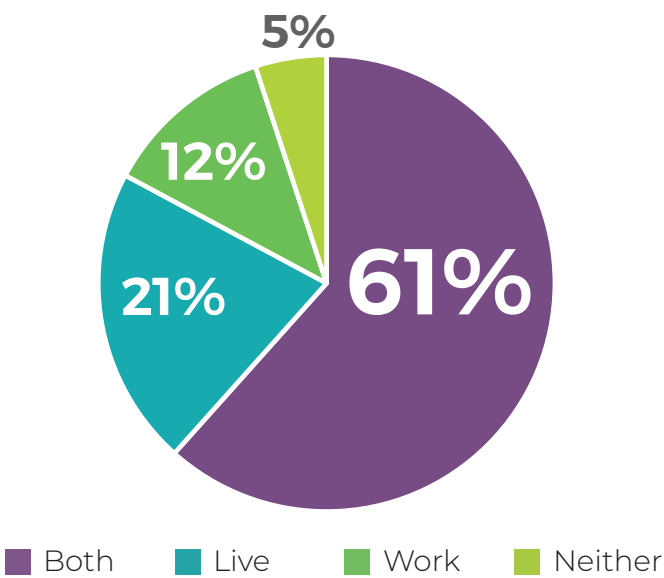
1. Surveys

Transportation Habits Survey

An initial survey was developed and disseminated to the public to understand current transportation habits among residents and visitors to Ann Arbor. A total of 1,814 people completed this initial survey. 1,756 surveys were completed online, while 58 were transit user “intercept surveys” completed in-person. The online survey was available April 14, 2019 to May 20, 2019 on A2 Open City Hall. This input opportunity was advertised through city communication channels (including emails to identified stakeholders, social media posts, etc.), targeting community-wide feedback. The survey was also conducted as an intercept survey at the Blake Transit Center on May 14, 2019 and at the Central Campus Transit Center on May 16, 2019

Online Survey Results

Over half of the 1,756 online survey participants (61%) both lived and worked in Ann Arbor. Only 5% of participants neither lived nor worked in Ann Arbor. In order to understand how place of home and work influence transportation choices, the following survey questions are categorized by participant place of work and home.



Mode of Transportation: Work/School

Participants were asked how they most often traveled to work or school. Over half of all participants (55%) reported they most often drive to get to work or school. Most participants who only lived or worked (78% and 74%, respectively) in Ann Arbor most often drove to work or school whereas less than half of participants who both lived and worked in Ann Arbor drove to work or school. Participants who both lived and worked in Ann Arbor were more likely to bike and walk to work or school than other participants.

Mode of Transportation - Work/School

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	55%	12%	14%	17%	1%	1%
Both	44%	16%	18%	19%	2%	1%
Live	78%	5%	7%	9%	0%	0%
Work	74%	6%	4%	15%	0%	0%
Neither	72%	8%	4%	15%	1%	0%

Mode of Transportation - Grocery Store, Parks, or Other Destinations

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	69%	9%	14%	6%	2%	0%
Both	64%	10%	17%	7%	2%	0%
Live	73%	8%	13%	4%	1%	0%
Work	88%	1%	5%	4%	2%	0%
Neither	78%	4%	7%	10%	1%	0%

Mode of Transportation: Grocery Store, Parks, or Other Destinations

Participants were asked how they most often traveled to the grocery store, parks, or other destinations. While most of the participants drove to get to the grocery store, parks, or other destinations, participants who both lived and worked in Ann Arbor were more likely to bike or walk than other participants. Participants who neither lived nor worked in Ann Arbor were more likely to take transit to get to the grocery store, parks, or other destinations than other participants.

Decision-Making Impacts

Participants were asked what factors impact their decisions about how to get around. Time, followed by Convenience, was ranked the most important factor in deciding how to get around. Health and Cost were ranked as least important in deciding how to get around.

Time > Convenience > Safety > Health > Cost



Transportation Choice - Not Considering Safety

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	39%	32%	13%	11%	1%	0%
Both	31%	39%	14%	11%	1%	0%
Live	50%	23%	12%	9%	2%	0%
Work	50%	24%	9%	12%	2%	0%
Neither	49%	18%	9%	21%	2%	0%

Transportation Choice - Not Considering Time

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	23%	20%	29%	26%	1%	0%
Both	16%	21%	33%	27%	1%	0%
Live	31%	17%	25%	23%	1%	0%
Work	29%	19%	20%	28%	1%	0%
Neither	34%	14%	14%	33%	2%	0%

Transportation Choice - Not Considering Cost

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	41%	15%	9%	13%	17%	0%
Both	36%	18%	11%	13%	18%	0%
Live	50%	12%	9%	10%	15%	0%
Work	49%	10%	4%	15%	20%	0%
Neither	50%	5%	4%	23%	17%	0%

Transportation Choice - Not Considering Time, Safety, or Cost

Participants were asked what would be their first choice of getting around if safety were not an issue. Over a third (39%) of participants who both live and work in Ann Arbor reported they would choose to get around by bike if safety were not an issue. Participants who live or work in Ann Arbor (40% and 42%, respectively) reported they would choose to drive alone to get around if safety were not an issue. And a third of participants who neither lived nor worked in Ann Arbor would choose to take transit if safety were not an issue.

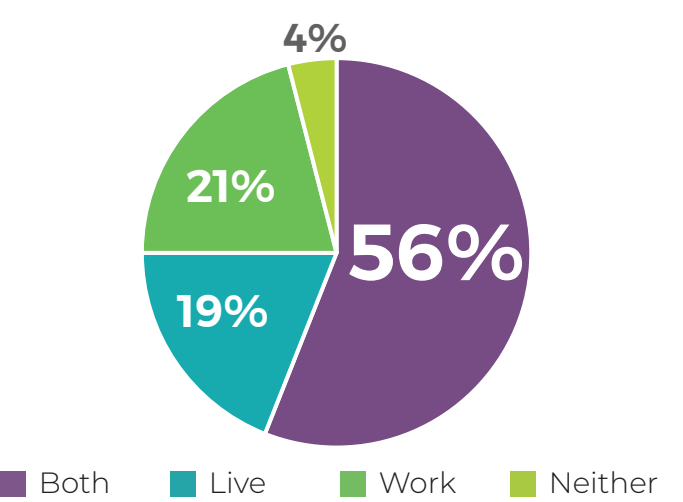
A third of participants who both lived and worked in Ann Arbor reported they would choose to get around by walking if time were not an issue. Participants who only lived, only worked, or neither lived nor worked in Ann Arbor reported they would most likely choose to take transit to get around if time were not an issue.

Finally, participants were asked to rank their transportation choices not considering cost. Driving alone ranked the first choice to get around if cost were not an issue for all categories of participants. Participants who both lived and worked in Ann Arbor were more likely to select bicycling as their first choice to get around than other participants. Participants who neither lived nor worked in Ann Arbor were most likely to choose to take transit if cost were not an issue.

Transit User Intercept Survey

Over half of the 58 intercept survey participants (56%) both lived and worked in Ann Arbor. Only 4% of participants neither lived nor worked in

Ann Arbor.



Mode of Transportation: Work/School

Over half of all participants (54%) reported they most often take transit to get to work or school. Few participants (1%) reported biking to work or school. The majority of participants who lived or worked in Ann Arbor took transit to get to work or school. Nearly half of participants who both lived and worked in Ann Arbor reported taking transit to work or school. Transit User Intercept survey participants were more likely to take transit to work or school than online survey participants.

Mode of Transportation - Work/School

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	25%	1%	13%	54%	6%	0%
Both	27%	2%	17%	46%	8%	0%
Live	14%	0%	14%	71%	0%	0%
Work	28%	0%	0%	64%	7%	0%
Neither	0%	0%	0%	100%	0%	0%



Mode of Transportation - Grocery Store, Parks, or Other Destinations

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	40%	0%	18%	36%	5%	0%
Both	39%	0%	20%	36%	5%	0%
Live	40%	0%	13%	47%	0%	0%
Work	44%	0%	13%	31%	13%	0%
Neither	50%	0%	50%	0%	0%	0%

Mode of Transportation: Grocery Store, Parks, or Other Destinations

Transit User Intercept survey participants were more likely to take transit to the grocery store, parks, or other destinations than online survey participants.

Decision-Making Impacts

Time played a major role in how participants chose to get around. As with the online survey responses, Time, followed by Convenience, was ranked the most important factor in deciding how to get around. Safety and Health were ranked as least important in deciding how to get around.

Time > Convenience > Cost > Safety > Health

Transportation Choice - Not Considering Time, Safety, or Cost

Nearly a third of participants (29%) reported they would choose to get around by transit if safety were not an issue. Unlike the online participants, few transit user intercept survey participants would choose to travel by bike, even if safety were not an issue (12%). Nearly half of participants (47%) reported they

would choose to get around by walking if time were not an issue. Over a third of participants (38%) reported they would choose to take transit if time were not an issue.

Rideshare ranked the first choice to get around if cost were not an issue for all categories of participants. Nearly a third of participants (31%) reported they would choose to drive alone if time were not an issue, followed by driving with someone or taking transit (10% each, respectively). Participants who worked in Ann Arbor were more likely to select driving alone than other participants.

Transportation Choice - Not Considering Safety

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	30%	12%	20%	29%	4%	0%
Both	24%	16%	20%	28%	4%	0%
Live	40%	10%	10%	30%	10%	0%
Work	41%	8%	33%	17%	0%	0%
Neither	0%	0%	0%	100%	0%	0%

Transportation Choice - Not Considering Time

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	18%	2%	47%	38%	4%	0%
Both	4%	4%	50%	31%	8%	0%
Live	38%	0%	38%	25%	0%	0%
Work	41%	0%	45%	27%	0%	0%
Neither	0%	0%	50%	0%	0%	0%

Transportation Choice - Not Considering Cost

	Drive	Bike	Walk	Public Transit	Rideshare/ Taxi	Scooter Share
All	41%	2%	8%	10%	39%	0%
Both	31%	3%	3%	7%	55%	0%
Live	38%	0%	0%	25%	38%	0%
Work	80%	0%	20%	0%	0%	0%
Neither	0%	0%	50%	50%	0%10%	0%

Big Ideas

Participants were asked to suggest one “big idea” for transportation for the city to focus on. Over 1500 unique responses were entered, with one or more ideas for transportation. The most common topics of those big ideas are listed to the right:

- 1. Transit (603 comments)
- 2. Bicycle Accommodation (421 comments)
- 3. Pedestrian Accommodation (295 comments)
- 4. Safety (220 comments)
- 5. Parking (100 comments)
- 6. Maintenance (96 comments)



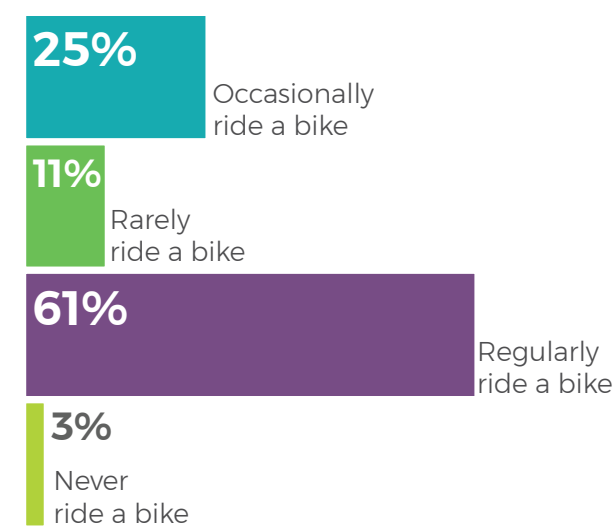
Bicycling Preferences Survey

This survey was developed and disseminated to the public to understand how often people’s bicycling behaviors and how comfortable they are riding on varying types of streets. A total of 1,052 people completed this survey with 3,045 entries. The survey was completed online. The online survey was available October 15, 2019 to October 31, 2019 on A2 Open City Hall. This input opportunity was advertised through city communication channels (including emails to identified stakeholders, social media posts, etc.), targeting community-wide feedback.

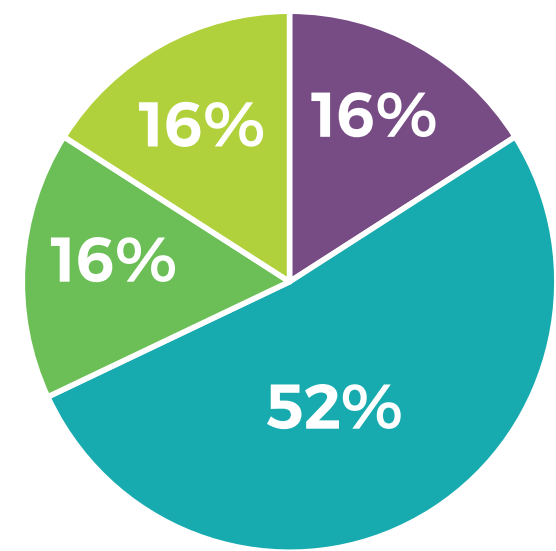
Online Survey Results

Over half of the respondents regularly ride a bicycle (61%), with 51% of respondents reporting they ride a bicycle at least once a week to get to work, school, or errands.

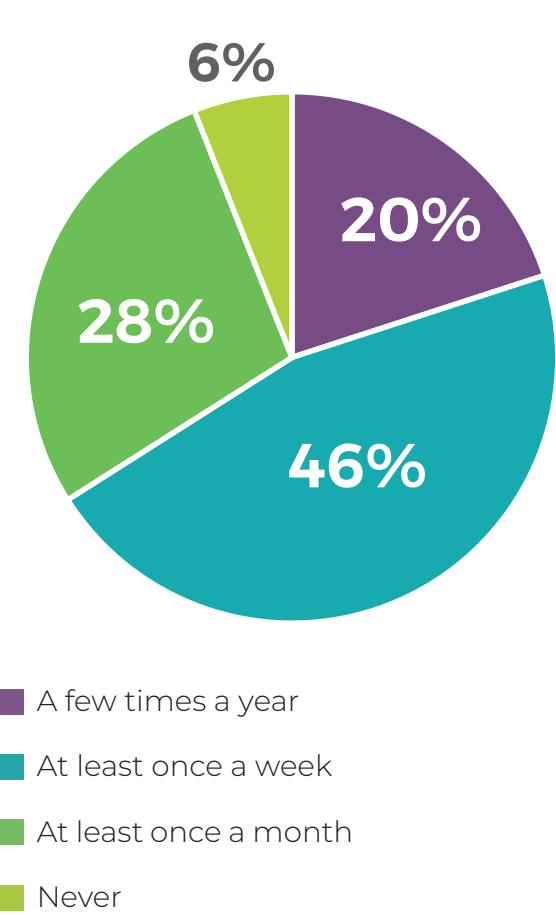
Typical Ridership



Bike to Work, School, or Errands



Bike for Exercise/Recreation



The majority of respondents (79%) reported they would ride a bicycle if they felt safer and more comfortable on roadways. Only 8% reported they would not ride a bicycle if they felt safer and more comfortable.

Nearly two-thirds of respondents (66%) reported they are comfortable sharing the road with cars, but prefer to ride a bicycle in bike facilities (like bike lanes). 23% of respondents reported they are not comfortable sharing the road with cars, but they are interested in riding a bicycle. Typically, the ‘interested but concerned’ respondents may feel more comfortable riding on an off-street path or trail. Only 2% are not comfortable riding a bicycle while 9% are comfortable riding a bicycle in any roadway condition.

Comfort Level by Street Type

Street Type	1 (low comfort)	2	3	4	5 (high comfort)
Residential, No Parking, No Bike Lane	4%	7%	14%	26%	49%
Residential, Parking, No Bike Lane	5%	11%	23%	30%	32%
Residential, Parking, Bike Lane	4%	4%	9%	21%	62%
2 Lane Commercial Street, Parking, No Bike Lane	35%	27%	22%	10%	5%
2 Lane Commercial Street, Parking, Shared Bike/Car Lane	23%	29%	27%	15%	6%
2 Lane Commercial Street, Parking, Bike Lane	8%	14%	27%	33%	17%
2 Lane Commercial Street, Parking, Separated Bike Lane	6%	2%	4%	12%	76%
4 Lane Street, No Parking, No Bike Lane	53%	20%	15%	6%	5%
3 lane street, buffered, no parking	7%	13%	22%	33%	26%
3 Lane, One Way Street, Parking, Bike Lane	7%	13%	25%	30%	25%
5 Lane Street, No Parking, Bike Lane	16%	20%	27%	25%	12%
2 Lane Street, No Parking, Bike Lane	8%	11%	22%	32%	27%
5 Lane Street, No Parking, Bike Lane	15%	21%	27%	23%	13%

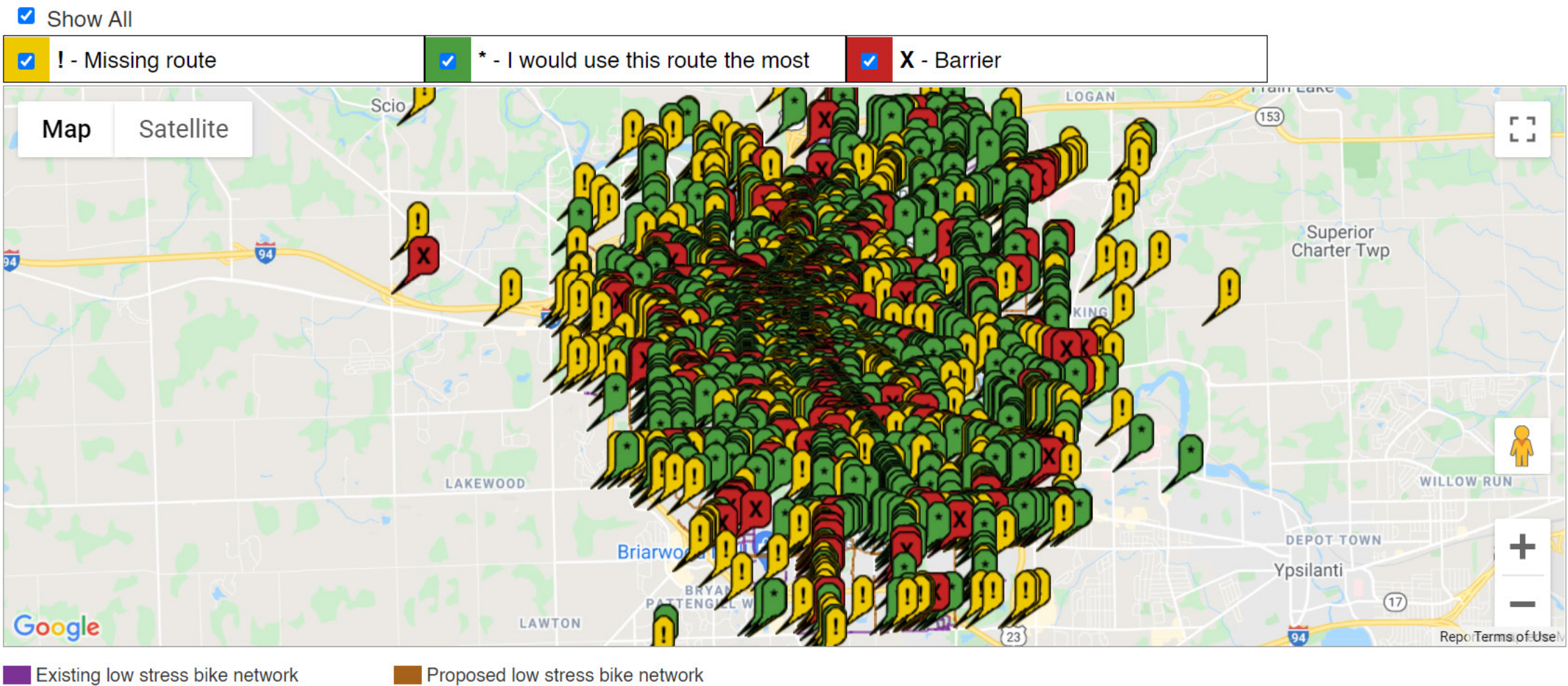
Bicycle Network Survey

This survey was developed and disseminated to the public to collect input on a drafted network of comfortable to use bike routes. The routes ranged from local streets prioritized for bicycle travel to major streets with separated bike paths, that bicycle riders of most skill levels and abilities, including children, consider acceptably safe for bicycling. A total of 460 people completed this survey with 3,505 entries. The survey was completed online. The online survey was available June 24, 2020 to July 10, 2020 on A2 Open City Hall. This input opportunity was advertised through city communication channels (including emails to identified stakeholders, social media posts, etc.), targeting community-wide feedback.

Online Survey Results

On the interactive map, there were 1,680 entries indicating “I would use this route the most”, 1,001 entries for “missing route”, and 354 entries for “barriers”.

Responses from Interactive Map



Pedestrian Crossing Survey

This survey was developed and disseminated to the public to understand how comfortable people feel using mid-block crosswalks, as a pedestrian and as a driver, and identify where additional crosswalks should be marked. A total of 954 people completed this survey with 3,325 entries on the interactive map. The survey was completed online. The online survey was available January 10, 2020 to January 27, 2020 on A2 Open City Hall. This input opportunity was advertised through city communication channels (including emails to identified stakeholders, social media posts, etc.), targeting community-wide feedback.

Online Survey Results

Over half of the respondents (54%) self-identified as a driver. 29% self-identified as a pedestrian; 12% as a cyclist; and 3% as a transit user.

How comfortable are Ann Arbor's pedestrian crossings?

The majority of respondents that self-identified as 'pedestrians' agreed rectangular rapid flashing beacons helped make mid-block crosswalks more comfortable. Less than half of 'pedestrian' respondents agreed pedestrian crossing signs and in-person street signs were comfortable (41% and 40%, respectively). Respondents that identified as pedestrians typically agreed that treatments with lighting and/or street infrastructure made for a more comfortable crossing.

Crossing Treatment (Pedestrians)

Treatment	Disagree	Neutral	Agree
Rectangular Rapid Flashing Beacon	7%	10%	83%
Pedestrian Crossing Sign	29%	31%	41%
Lighting	11%	16%	73%
Pedestrian Refuge Island	11%	18%	71%
In-person Street Sign	38%	23%	40%
Pedestrian Hybrid Beacon	16%	13%	70%

Respondents that self-identified as 'drivers' agreed rectangular rapid flashing beacons and lighting helped make mid-block crosswalks more comfortable. Similar to 'pedestrian' respondents, less than half of 'driver' respondents agreed pedestrian crossing signs and in-person street signs were comfortable (48% and 42%, respectively).

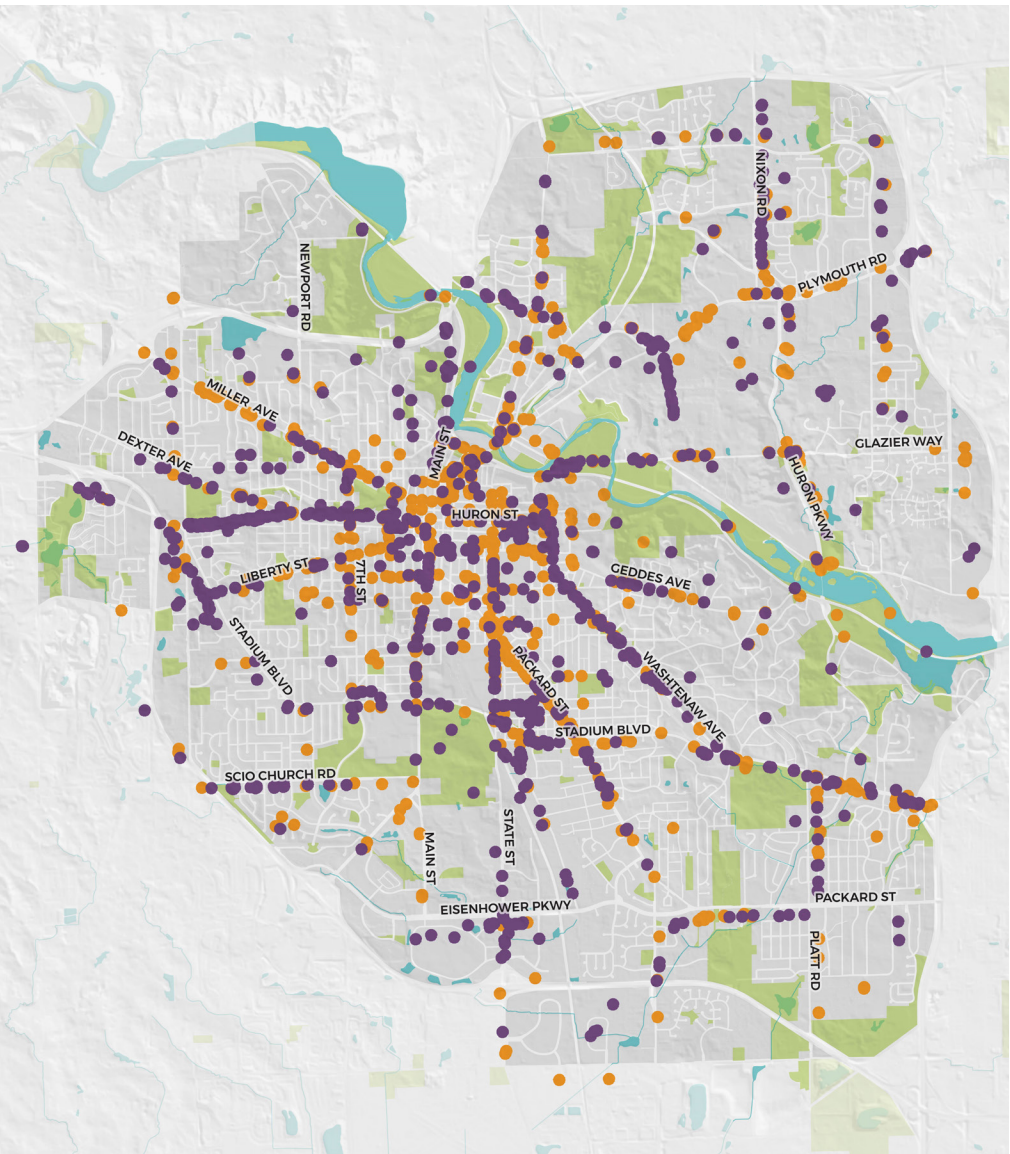
Crossing Treatment (Drivers)

Treatment	Disagree	Neutral	Agree
Rectangular Rapid Flashing Beacon	7%	6%	87%
Pedestrian Crossing Sign	25%	27%	48%
Lighting	9%	12%	80%
Pedestrian Refuge Island	17%	24%	60%
In-person Street Sign	38%	20%	42%
Pedestrian Hybrid Beacon	18%	13%	69%

When asked about how people behave at crosswalks,

- » 63% of respondents think people walking behave properly at marked mid-block crosswalks
- » 60% of respondents think people driving behave properly at marked mid-block crosswalks
- » 61% of respondents think Ann Arbor should continue to install marked mid-block crosswalks

Mapping Activity



- I would like to cross here
- I would like this crossing improved

In addition to the survey, respondents were able to map locations that they would like to cross or identify crossings they would like improved. Over half of the entries (53%) identified locations that respondents would like to cross.



Focus Corridors Priorities Survey

This survey was developed and disseminated to the public to understand how people would prioritize space available in focus corridors. The focus corridors represent diverse types of roadways and traffic conditions, so that treatment and consideration for safety enhancements can be developed within a variety of contexts. There are significant safety challenges at each of the corridors. For this survey, the corridors evaluated were Washtenaw Ave, Plymouth Rd, S Main St, Miller Ave, and Fuller Rd.

The survey provided information on the existing conditions for each corridor using the following categories (see example image below):

- » **Crash & Safety:** The number of vehicles, bicycle, or pedestrian crashes in addition to the number of fatalities or serious injuries.
- » **Bicycle Level of Traffic Stress (LTS):** A score based on the volume of traffic, speed limit, and type of bike infrastructure.
- » **Transit Routes:** The number of Ann Arbor Area Transportation Authority bus routes along the corridor.
- » **Pedestrian Demand and Network:** The likely level of pedestrian activity and availability of sidewalk routes, accounting for existing gaps in the sidewalk system.
- » **Vehicle Volume:** The average daily motor vehicle traffic on a roadway.

A total of 583 people completed this survey. The survey was completed online. The online survey was available November 23, 2019 to December 9, 2019 on A2 Open City Hall. This input opportunity was advertised through city communication channels (including emails to identified stakeholders, social media posts, etc.), targeting community-wide feedback. The online interactive map mirrored the Open House activity.

Online Survey Results

Transit was the top priority for Washtenaw Ave, Plymouth Rd, S Main St, and Fuller Rd. Followed by transit, these corridor prioritized vehicles, bicycles, and then pedestrians. Bicycling was the top priority for Miller Ave.

Washtenaw Ave

- Priority:
- 1. Transit
 - 2. Vehicle
 - 3. Bicycle
 - 4. Pedestrian

Plymouth Rd

- Priority:
- 1. Transit
 - 2. Vehicle
 - 3. Bicycle
 - 4. Pedestrian

S Main St

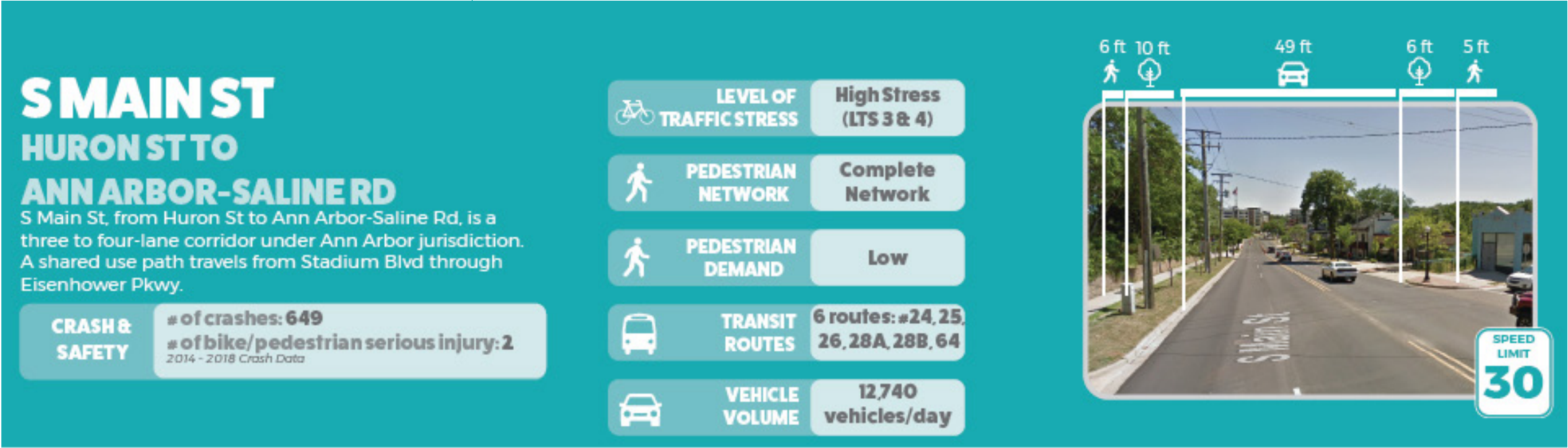
- Priority:
- 1. Transit
 - 2. Vehicle
 - 3. Bicycle
 - 4. Pedestrian

Miller Ave

- Priority:
- 1. Bicycle
 - 2. Transit
 - 3. Vehicle
 - 4. Pedestrian

Fuller Rd

- Priority:
- 1. Transit
 - 2. Vehicle
 - 3. Bicycle
 - 4. Pedestrian



2. Events

Open Houses & Pop Up Events

Open House & Pop Up Events #1

The first open house took place June 13, 2019 from 5PM to 7PM at City Hall. The first pop-up meeting took place at the Mayor’s Green Fair on June 14, 2019 from 6PM to 9PM. 81 people from 14 zip codes attended and participated in the open house and pop-up.

- » 31 people attended the open house
- » 50 people attended the pop-up meeting

Station 1 Results - Values

What Values are Most Important to You?
Participant were asked to note their preferences among a list of possible values that they would like to guide Ann Arbor’s Comprehensive Transportation Plan. The top five values were sustainability, mobility, regionalism, safety, and accessibility for all. Results reflect input from both the open house and pop-up events.

Value Count

1. Sustainability - 37
2. Mobility - 33
3. Regionalism - 32
4. Safety - 31
5. Accessibility for All - 24
6. Healthy people/places - 20
7. Quality of Place - 17

8. Efficiency - 15
9. Economic Vitality - 5

Comment cards were available for participants to share what the values meant to them. Below are selected comments:

- » **Accessibility for All:** A place for everyone on a street. Not just vehicles, not just bikers, but everyone, or every age and ability
- » **Healthy People/Places:** Cities designed to promote healthy, safe, and pleasant options for getting around
- » **Mobility:** Ability to travel within or beyond Ann Arbor using a variety of modes without being impeded by subpar infrastructure or transit service. It is particularly important that we focus on making non-automobile modes more viable, particularly outside downtown and campus areas
- » **Quality of Place:** Making streets and surrounding development more people-oriented rather than car-oriented. This means increasing density and allowing more mixed-use and not requiring large amounts of space be devoted to parking. Also need more streets be on people-driven rather than car-driven, particularly outside downtown/ campus
- » **Regionalism:** Easy accessibility to train travel to/from Ann Arbor
- » **Safety:** Changing the culture so that driving doesn’t seem like the default. Only when

drivers see people using other modes and treat them as equally important will they be less likely to run us over. Also, closing the sidewalk gap, especially near schools and parks.

Station 2 Results - Great Streets

What Makes a Great Street?

Participants were provided with three examples of “great streets” for three different kinds of corridors: downtown business districts, commuter corridors, and residential streets. They were then asked to pick which street(s) that they like the most and where in Ann Arbor they would like to see them. Results reflect input from both the open house and pop-up events.

Downtown

- » Bioswale, outdoor seating, pedestrian- scale 12
- » Parklets converted from on street parking space 8
- » Bike lane, street furniture, high visibility crosswalk 6

Commuter

- » Dedicated bus lanes and median bus stops 4
- » Side boarding island and two-way bike lane 15
- » Side boarding bus island and through bike lane 2

Residential

- » Bicycle boulevard improvements 4
- » Painted bulb-outs, flexible bollards, and planters 3
- » Raised crosswalk, shortened crossing, signage 3



Commuter corridor with side boarding bus island and two-way bike lane

The most popular great street was the commuter street with a side-boarding bus island and two-way bike lane as displayed below: *Commuter corridor with side boarding bus island and two-way bike lane.*



Station 3 Results - Transportation Opportunities & Challenges

Participants were asked to identify which streets or intersections they like or dislike, and which transportation challenges they experienced throughout Ann Arbor. Nearly two-thirds of reported challenges related to walking and bicycling (33% and 30%, respectively). This activity was only available at the open house.

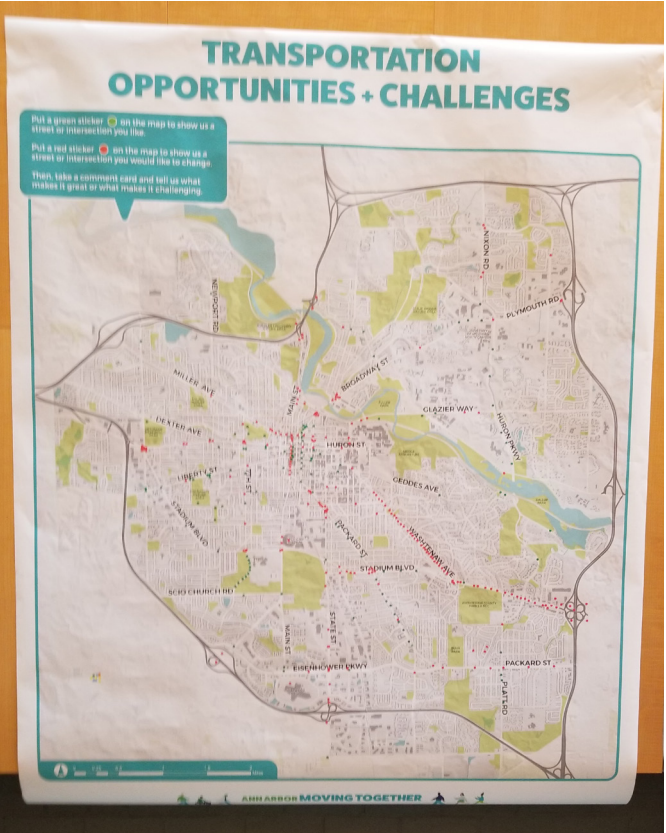
Modes of Transportation Challenges

- 1. Walking 33%
- 2. Bicycling 30%
- 3. Transit 16%
- 4. Driving 20%

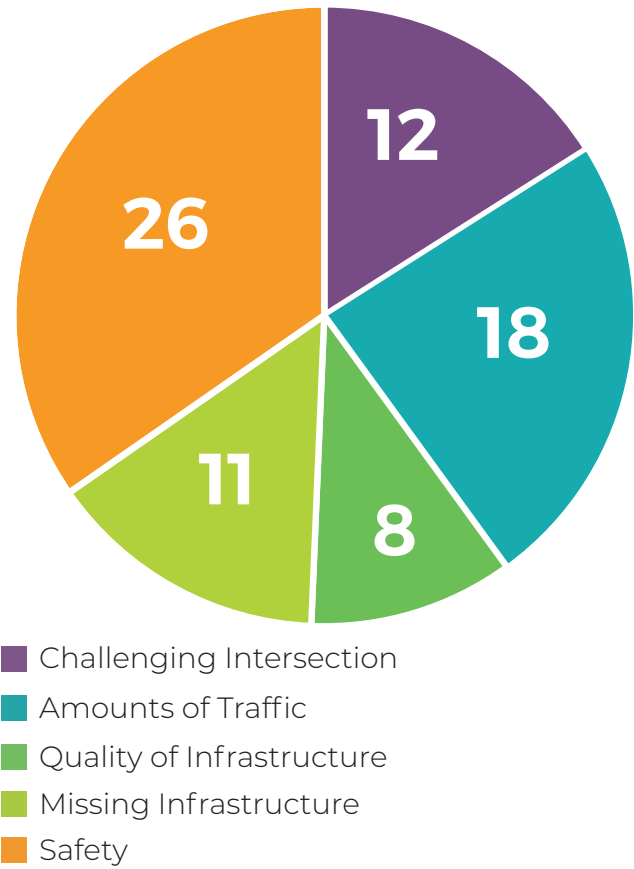
Participants used red dots to indicate areas on the map that they disliked, and green dots to indicate areas that they like.

Safety and Amount of Traffic were reported to be the most frequently experienced challenges.

For both walking and bicycling, almost all the comments related to safety challenges (96% and 90%, respectively). Approximately two-thirds of the walking and bicycling comments related to the amount of traffic (61% and 67%, respectively).



Counts of Reported Challenges



Examples of experienced challenges include:

- » Train tracks: You have to walk/lift your bike over the train tracks - makes an important bike path inaccessible from downtown
- » 7th & Huron: [...] needs to give more priority to peds and bikes
- » Stadium and Packard: This intersection is terrifying for parents with young kids, the elderly and anyone with trouble getting through this large, lousy intersection on foot in a measly 18 seconds. Drivers turning right speed thru, nearly running over pedestrians.
- » Detroit/ Division/ Broadway: The grade change has poor visibility, speeding cars. Very difficult to get to this bus stop

Big Ideas

Participants were asked about their “big idea” for transportation in Ann Arbor. Below are some representative ideas:

- » Main Street pedestrians and bikes only after 6pm + weekends
- » Traffic signals environmentally timed
- » Left and right turns of flashing red
- » If more people took the bus, we could all get around easier!
- » A people mover
- » Using more bikes
- » Rid A2 bike lanes of potholes!!!
- » Improve weekend transportation
- » Improve Jackson Road
- » Close Washtenaw Ave on Sundays for biking (or Huron Street), etc.
- » A HUGE pedestrian mall
- » Campus to campus bikeway

- » BRT or Bus
- » Satellite parking lots (free) for commuters with electric shuttle buses to take them downtown [...]
- » Less car lanes, more connected bike lanes and more buses
- » More public transportation
- » electric buses
- » more walkable spaces (super blocks)
- » fewer cars
- » Continuous bicycling infrastructure
- » Moving Together slowly and safely
- » Fewer cars - more safe transportation options
- » Traffic, efficiency, sustainability
- » Accessible + affordable parking
- » I hope I live long enough to see positive improvements!
- » more transit + rail!
- » Enjoy Ann Arbor, high quality of life - every way!!
- » I hope I'll be safe on my bike ride...
- » Motorcycle and scooter parking
- » Encourage and support communal transportation
- » Walk today!
- » Use corn for gas wo it will lower air pollution
- » Putting up barriers on a crosswalks at a train track
- » Using bikes more than cars
- » More accurate timing on traffic signals



Pop Up #2

The second open house took place October 15, 2019 from 5PM to 7PM at the Peace Neighborhood Center Family Night. 10 people from 4 zip codes attended and participated in the open house and pop-up.

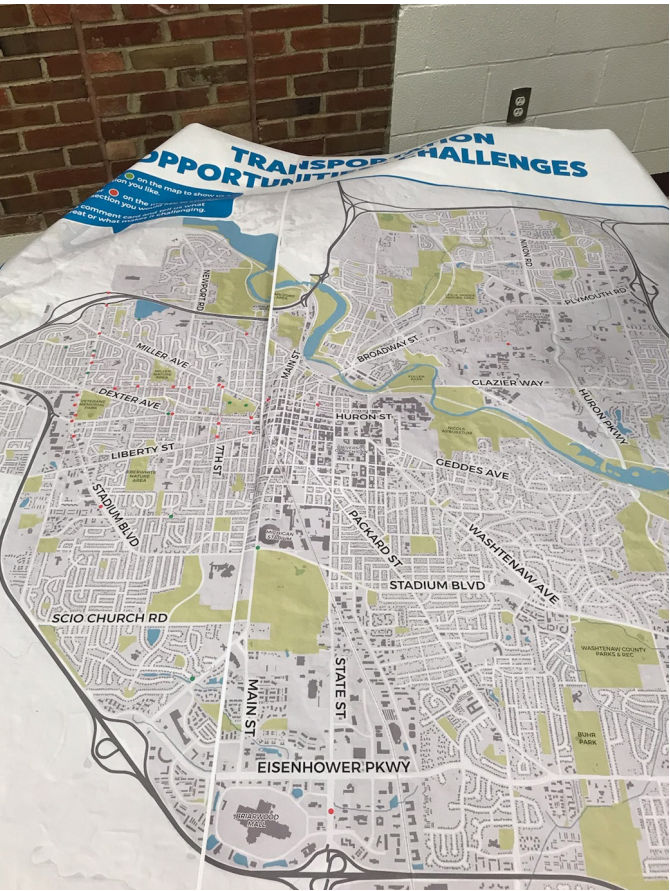
Participants were asked to identify which streets or intersections they like or dislike, and which transportation challenges they experienced throughout Ann Arbor. Participants used red dots to indicate areas on the map that they disliked, and green dots to indicate areas that they like. An image of the results of the mapping exercise is included below.

All recorded comments are provided here:

- » Arborview Boulevard cycle track on north side
 - Street is very wide (40') and could easily accommodate a neighborhood cycle track 2x 4' bike lanes w/ 2' buffer. On street parking stays as is.
- » Jackson Ave. crosswalks (between Dexter split and Maple)
- » Install ramp where there are steps at Arborview and Ross Street
- » Stadium Boulevard and Maple Road cycle track
 - Stretch in front of Maple Village could absorb 1 lane dedicated to a 2-way cycle track
- » I'd love to see
 - Better transportation (public) between Ann Arbor and Ypsi

- More frequent buses across the board
- More bike lanes (and better ones – separated from roads)
- More collaboration between Ann Arbor and UM
- » UM North Campus
 - Lack of frequent transit connecting North campus and non-UM destinations, CCTC, residential areas near Green/Nixon and Plymouth
- » In recent years, congestion has increased in Ann Arbor. At the same time, some areas seeing growth (like North Campus/ NE Ann Arbor) do not have frequent bus service in key areas. This exacerbates the problem by causing more people to drive, and infrequent service delayed by traffic.
- » I'd like to see more of an "8-80" focus when implementing bike infrastructure. I appreciate the significant institutional and PR limitations associated with getting anything done in this space, but "paint on pavement" generally leaves inexperienced cyclists, women, and children, the elderly out.

Pop Up 2



Open House #2

The second open house took place November 20, 2019 from 5PM to 7PM at City Hall. 46 people from 6 zip codes attended and participated in the open house and pop-up.

Information was provided in the form of a project fact sheet and a handout summarizing the values for the plan, resulting from the first public open house event, input from staff, and input from the Technical Advisory Committee and the Community Advisory Committee.

Two stations with informational display boards and interactive boards for input were provided. The activities and input are summarized below.

Station 1 Results - Focus Corridor Priorities
What Are Your Priorities?

Participants were asked to note how the various modes of travel (walking, bicycling, taking transit, driving a personal vehicle) should be prioritized on five corridors throughout Ann Arbor. The corridors of focus were:

- » Washtenaw Ave (Stadium Blvd - US 23)
- » Plymouth Rd (Murfin Ave - US 23)
- » Miller Ave (Downtown - M 14
- » S Main St (Huron St - Ann Arbor Saline Rd)
- » Fuller Rd (Bonisteel Blvd - Depot St)

Results for each corridor are summarized in tables below. A ranking of 1 indicates the highest priority and 4 indicates the lowest priority.

Washtenaw Ave Priority Polling

Mode	Average Ranking	Most Common Ranking
Pedestrian	3.24	3
Transit	1.22	1
Bicycle	2.39	2
Vehicle	3.06	4

Plymouth Rd Priority Polling

Mode	Average Ranking	Most Common Ranking
Pedestrian	2.96	3
Transit	1.67	1
Bicycle	1.81	1
Vehicle	3.48	4

Miller Ave Priority Polling

Mode	Average Ranking	Most Common Ranking
Pedestrian	2.11	2
Transit	2.76	3
Bicycle	1.50	1
Vehicle	3.56	4

S Main St Priority Polling

Mode	Average Ranking	Most Common Ranking
Pedestrian	1.94	1
Transit	2.33	3
Bicycle	1.79	2
Vehicle	3.77	4

Fuller Rd Priority Polling

Mode	Average Ranking	Most Common Ranking
Pedestrian	2.76	3
Transit	1.97	1
Bicycle	1.90	1
Vehicle	3.40	4

Station 2 Results - Low Stress Bicycle Network

Two informational boards were included at this station. The first provided an overview of what a Bicycle Boulevard is, a type of low-stress bicycle route along local streets, and examples of elements that are used to create a Bicycle Boulevard. The first provided a summary of the results from the online bike survey as well as some background on the Level of Traffic Stress rating system.

In an interactive portion of this station, participants were provided with a large basemap of the existing network of streets that are low-stress for bicycling and asked to provide input on which streets should be a focus. Comment cards were also provided in which participants could denote streets that should be added to the low-stress network. Below is the list of streets that were mentioned or drawn on the map, as well as an image of the map with comments.

Low Stress Bicycle Network Suggestions:

- » Miller
- » Maple
- » Washtenaw
- » Packard: Eisenhower - Platt
- » Stadium
- » S. Main
- » Washington
- » Hill
- » 7th
- » Huron/Jackson
- » Ferndon
- » Devonshire
- » Washington
- » Packard Eisenhower - Platt
- » 7th Miller - Stadium
- » Washington Town - West
- » Liberty 7th - west
- » Packard
- » Division
- » Miller
- » Packard Eisenhower - Main
- » 7th Miller - Stadium
- » Packard Ypsi - Eisenhower
- » Fuller
- » E. Med
- » Beakes/Broadway/Plymouth
- » Plymouth Broadway - Murfin
- » Packard Stadium - Campus
- » Miller M-14 to Brooks St
- » Traver Rd/Traver Blvd/Tuebingen
- » Pkwy/Placid Way Park
- » trail/Omlesaad Dr
- » Moore St to Hickory Point Dr
- » A connector to the northern burbs would be great, and Traver through the golf course is



a quiet, low-traffic route

- » Pontiac Trail Barton Dr to Dhu Varren Rd
- » This section of Pontiac has nice bike lanes and sidewalks
- » Skyline High School
- » Bike route to Skyline High School
- » Fuller Catherine St to Maiden Ln Addition of bike infrastructure
- » Sunset Rd/Wildt St Spring St to Summit St
- » Huron/Jackson Chapin St to Zina Pitcher
- » Lots of bikes [both directions]
- » Revena Blvd/Washington St Dexter Ave to 1st St
- » Liberty Maple Rd to 7th St Liberty is a good bike route
- » Maple Rd/Stadium Blvd Dexter Ave to Winewood Ave
- » Need bike lanes
- » 7th Liberty St to Stadium Blvd
- » Fuller Rd/Geddes Rd Huron High School to Earhart Rd
- » Earhart Rd US-23 to Geddes Rd
- » Maple Rd Liberty St to Scio Church Rd
- » Scio Church Rd Maple Rd to Main St
- » S. Main Stadium Blvd to Scio
- » Church Rd
- » Packard Division St to Eisenhower Pkwy
- » Packard has a great opportunity for bike commuting with many bikes already using it.
- » Improving could increase use!
- » Packard Eisenhower Pkwy to US-23 Add bike lanes here!
- » South edge of Eisenhower Park
- » Ped/bike bridge to Oak
- » Valley Dr would make a more enjoyable

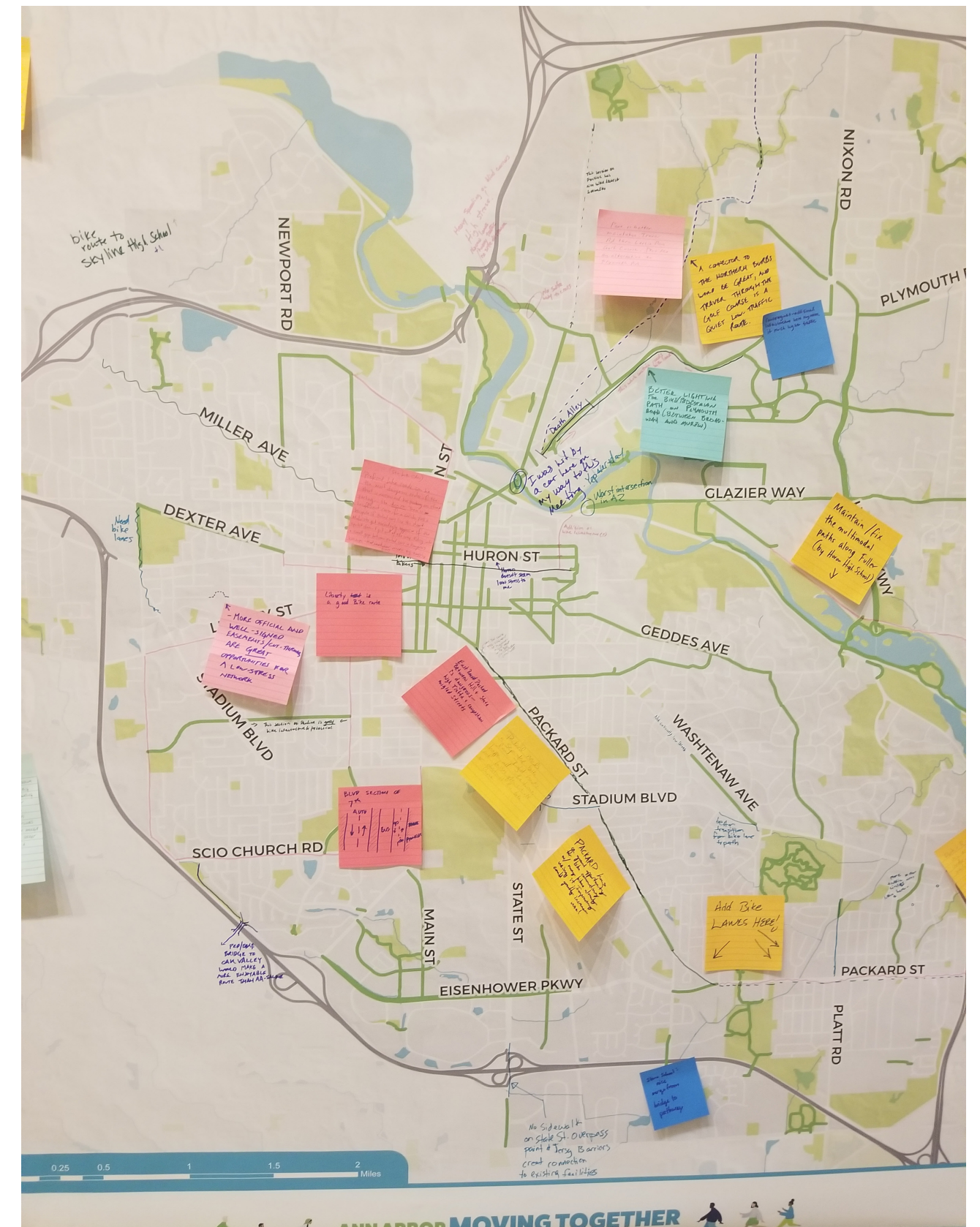
route than AA-Saline

- » Through Eisenhower Park from Scio Church Rd to previous comment's proposed ped/ bike bridge at southern edge of park
- » State St overpass of I-94
- » No sidewalk on State St overpass. Paint and Jersey barriers create connection to existing facilities
- » Packard Separated bikeway connector to Ypsi should be high priority
- » Stadium Industrial Hwy to Packard St Bike lane ends
- » Stadium Washtenaw Ave to St Francis Dr
- » Better transition from bike lane to path
- » Platt Huron Pkwy to Packard St
- » Edgewood Dr & Richard St, Parkwood Ave & Yost Blvd
- » More traffic circles in other areas like in here

The streets with the most suggestions to be added to the low-stress network were Packard, 7th, Miller, Stadium, and Washington.

In addition to the suggested routes, participants added comments to the map, which are annotated in the following pages.

Station 2



Station 2

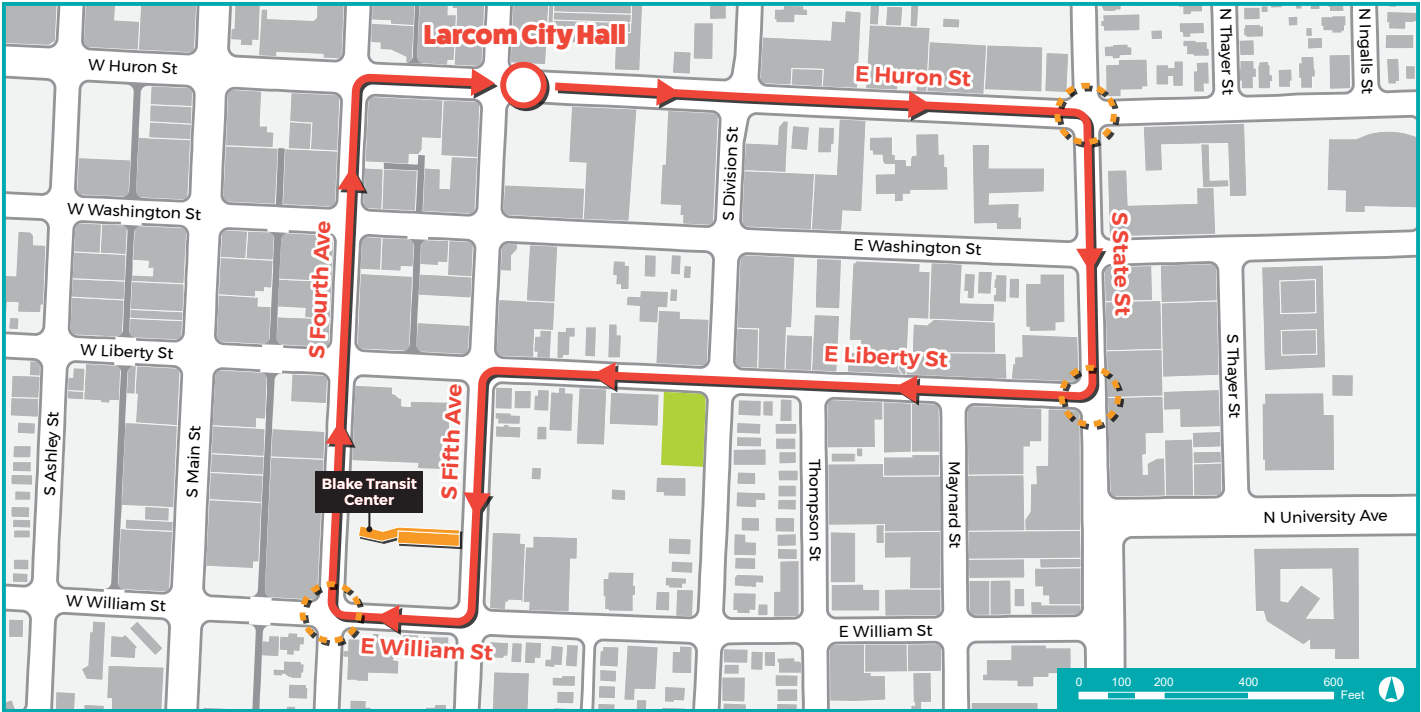
Comment Type	Street/Location	Comments
Future Vision	7th St from Stadium Blvd to Scio Church Rd	Blvd section of 7th [drawing, left to right:] buffer, auto southbound, auto northbound, buffer, bus, 2-way cycle track, buffer, Pioneer High School
Good example	Fair St from Westwood Apartment Dr to Glendale Circle	More official and well-signed easements/cut-throughs are great opportunities for a low-stress network
Good example	Pauline Blvd from Stadium Blvd to 7th St	This section of Pauline is good. Bike infrastructure and pedestrian!
Good example	Stone School Rd bridge over I-94	Nice merge from bridge to pathway
Maintenance	Traver Rd	Pave or better maintain Traver Rd thru Leslie Park Golf Course. Provides an alternative to Plymouth Rd
Maintenance	Citywide	Need winter sidewalk/bikepath maintenance on overpasses
Maintenance	Fuller Rd by Huron High School	Maintain/fix the multimodal paths along Fuller (by Huron High School)
Need	Citywide	Goal: all middle and high schools have at least 2 low stress ways to school
Need	Citywide	Citywide, bike lanes should not disappear. If they have to disappear for functional reasons (e.g. intersections) an “exit” to the sidewalk should be provided. Not all riders are able to just pop a curb. This would help bike lanes be used by a wider range of cyclists.
Need	Plymouth Rd from Broadway St to Murfin Ave	Better lighting for bike/pedestrian path on Plymouth Rd (between Broadway and Murfin)
Need	Plymouth Rd from Broadway St to Murfin Ave	This whole section needs bike lanes
Need	Madison St from Packard St to Thompson St	Can you close this segment of Madison - might help with the intersection conflicts
Need	Washtenaw Ave & US-23	Park and Ride Lot! Was Arborland - many under-used parking lots available
Safety	Barton Dr along the river	Heavy speeding on blind corners. High stress! Narrow lanes. Heavy traffic. No sight distance.
Safety	Brede Pl between Barton Dr and Hilldale Dr	No safe way to cross
Safety	Plymouth Rd from Broadway St to Barton Dr	Death Alley
Safety	Broadway St bridge over Huron River	I was hit by a car here on my way to this meeting.

Comment Type	Street/Location	Comments
Safety	Citywide	Preferred bike roads can be the most dangerous routes if the street is narrow and has on street parking...like Ann St. There is insufficient room for a car to pass a bicycle if parked cars line the street. Motorists get exceedingly aggressive if the cyclist doesn’t get out of the way. Riding into a small gap between parked cars is dangerous because that means zig-zagging in and out of traffic...Motorists wait patiently for waste management/recycling trucks because there's nothing they can do. But their aggression perks when the power differential (vulnerable cyclist) is greatest.
Safety	Maiden Ln & Fuller Rd	Worst intersection in A2
Safety	Huron St	Doesn't seem low stress to me
Safety	Parkard St from Hill St to State St	Eastbound Packard between Hill and Stat is dangerous - high traffic and congesting, angled streets
Safety	Packard St	Packard needs a separate bike lane. Right hooks happen all the time, and buses often cut off or obstruct the bike lane.
Safety	Washtenaw Ave	Not currently low stress



Walkshop

The walkshop tour took place in the spring of 2019. The tour followed the downtown Huron St, State St, Liberty St, and Fourth Ave (as shown in the map below). The tour observed the streetscape, intersections, and how the street was being used.



Open House #3

This meeting was the final public meeting for the development of the Ann Arbor Transportation Plan Update. Due to public health considerations, this meeting was held virtually via the Zoom platform, using the Zoom Webinar feature. The public meeting took place October 29, 2020.

The format of the meeting followed a pattern of a series of slides, followed by a poll, followed by an open question and answer period. The following outlines the presentation and question and answer portions of the meeting. Results from the polling sessions are attached.

Introduction

The consultant team provided an overview of the planning process, including the public engagement process and highlights from the phases along the way, including the plan goals, and the plan values of Safety, Mobility, Accessibility for All, Healthy People/Sustainable Places, and Regional Connectivity.

The consultant team also provided an overview of the plan document. Based on input from the Technical Advisory Committee (TAC), the Transportation Commission, and the Community Advisory Committee (CAC), a list of strategies that had been compiled from best practice research and stakeholder input was refined. The resulting full list of strategies was organized by timeline and priority based on what would be needed to help the City

of Ann Arbor reach its two main goals of achieving zero deaths and zero emissions. In the plan document, each strategy is associated with the value or values it represents, which 'E's it represents (Engineering, Education, Encouragement, Enforcement, Equity, and Evaluation), and the timeline in which the strategy should be initiated.

The consultant team provided an overview of how the metrics for the plan were derived:

1. Validity—does the metric accurately measure the result?
2. Reliability – does the metric remain consistent over time?
3. Simplicity – is the data easily available and we have the resources to measure it?
4. Meaningful – if the measure improves, have we improved mobility and people's lives in Ann Arbor?

Strategy Overview & Metrics

The consultant team provided an overview of some of the key strategies that address each value, followed by a polling session and a question and answer session. Below are notes from the question and answer session that followed each value discussion, including both questions and comments. Comments and questions submitted in writing through the Zoom Q&A feature are provided as submitted, but modified slightly where necessary for clarity.

Given the virtual format, the summary includes a compilation of questions from participants and answers from the project team.

Speed Control

Compilation of related questions:

- » Increased emphasis on speed limit reduction" will this be guided by corresponding reductions in the measured 85th percentile speeds or is the plan to simply lower already underposted speed limits? Note, underposted speed limits are illegal under State Law. What will be the impact of lower speed limits on Rush Hour Gridlock?
- » Q: We need to focus on enforcing the existing speed limits, which are under our control, before spending time on lowering speed limits, which are not under our control per State Law.
- » Q: I wholeheartedly support lowered posted speed limits as well as automated photo enforcement. I have seen this work very effectively in changing behavior in France.
- » Q: Is the goal to slow cars down or improve safety. The 85th percentile limit rule is designed to improve traffic flow. Poor traffic flow (slow cars clogging traffic) can lead to more accidents.
- » Q: Are motor vehicle related deaths the majority of deaths/injuries? Can underposted speed limits lead to more crashes?
- » Q: Do you recommend Ann Arbor advocate for permission to pilot automated enforcement?

- » Q: There are parts of automated enforcement we could do, but don't, though others in Washtenaw use them. A speed camera can still be used without issuing tickets - they're a great way to detect the worst speeders and then have police in place at the times/places the speeders are common. That's legal in Michigan, though we don't use them in AA.

- » Q: What is the impact of automated enforcement on actual safety?

Compilation of answers:

- » A: There are some limitations given state laws. We are working with MDOT. They are part of the TAC as well. We are working on how we structure our strategies to address that and work within it and how Ann Arbor can take some steps to change state laws and enact the strategies they want to see on their streets. For instance, there are some limitations on what the city can do on MDOT roads given their jurisdiction. That said, this plan, as a long range plan, is an important venue for putting forth the community's values and vision and making a statement that they hope to see certain things and being able to work with the state where they can't enact certain strategies yet but work towards that in the long term (Answered live)
- » A: We do have automated enforcement as one of the tools in the toolbox for addressing dangerous behaviors. That is currently limited by state law. But, part of the strategy is to advocate for changes



in that law to allow for use of automated enforcement (Answered Live)

- » A: Speed limit reduction has been shown in several studies to reduce speeds in urban areas and to reduce fatal and serious injury crashes overall, which includes drivers, pedestrians, and bicyclists. (Post-meeting response)
- » A: Speed limit reduction is not proposed as a stand-alone strategy; it is just one of many strategies, including engineering solutions, to lower speeds and improve safety in Ann Arbor. (Post-meeting response)
- » Q: Speed limits are not an issue right now, as traffic is so badly backed up.....
 - » A: Thank you for sharing your thought on the speed issue. (Answered via Q&A)
- » Q: Lowering speed limits without changing the design of the road to lower the measured 85th percentile speeds is bad engineering and dishonest public policy!
 - » A: Recent studies in other communities (Minneapolis, Seattle, Portland) has shown that reducing speed by posting a lower speed limit without making road design changes can be effective in slowing vehicles. (Answered via Q&A)
- » Q: Why do we use so little traffic calming? You can't do much about speed limits, but we could stop over-engineering our roads for so much speeding. We've made the physical environment good for speeding, the traffic signals largely encourage it, so people speed.
 - » A: Traffic calming is subject to specific requirements including buy in from

residents. <https://www.a2gov.org/departments/engineering/traffic/traffic-calming/Pages/default.aspx> (Answered via Q&A)

- » Q: Robert thank you for your kind and cordial responses! I just wanted to mention that, having been nearly doored on a bike, using on-street parking as a speed control measure may not be ideal. That said I appreciate the emphasis on speed control, as someone living and commuting on an intracity arterial!
 - » A: Appreciate you sharing your experience. It is important we have those first-hand life accounts. (Answered via Q&A)
- » Comment: Speed is everything on safety. With or without traffic, speed is still the key safety issue. Congestion 2 times a day just shows how much more we need alternative modes of transit available. Cars take up so much space.. for everything.
- » Comment: Just lowering speed limits without lowering 85th percentile speeds is cheaper and does not require the city to spend much. Is that the real reason the city just wants to lower speed limits?

COVID-19 and Remote Work

Compilation of related questions:

- » Q: What assessment has been made of the influence of Covid-19 on use of local and regional transit?
- » Q: Is this vision zero initiative taking into consideration overall Covid-19 effects? (since there will be many short-medium

term changes in how we interact, plan and design)

- » Q: References to transportation" now" should acknowledge the influence of remote working. Is that being assessed?
- » Q: Has the City approached Ann Arbor's employers to dialogue about staggered start work/end work times to limit traffic jams?
- » Q: Is this vision zero initiative taking into consideration the effects Covid-19 will have short and/or medium term in how pedestrians, cyclists, bikers and drivers change their mobility patterns?
 - » A: We have talked about how COVID affects this plan. This is a long-range plan and we have rooted the plan in community goals and values that will remain the same regardless of COVID-19. COVID has highlighted the need for different options, destinations closer to your home, and being able to access resources; this is addressed in the plan strategies. We have seen the quick-build strategy is an important resource for cities to adjust how they use their streets and remain flexible, especially during COVID-19. (Answered live)
- » Q: What is SEMCOG saying about remote working vs commuting that will influence regional transportation?
 - » A: The data that the plan is derived from is from pre-COVID conditions. Even with a lower volume of traffic, these focus areas are likely still a priority. We will need to continue to

monitor as we implement moving forward. The focus on safety, mobility, and accessibility are important and we will have to adapt. (Answered live)

- » Q: How are we addressing future of remote work?
 - » A: Reality is, no one can predict the future. Data showed pre-COVID conditions. Even with lower volume, still likely important. We will follow the data – as an emphasis. But mobility, accessibility, safety are important and we will adapt. Planning is a process (Answered via Q&A)
- » Q: Covid has affected my use of buses big time and I currently see more buses with zero passengers than buses with one or two folks on them. I walk now and that may not change for me in the future. Your plans should account for that possibility across the board. Not really a question, an observation.
 - » Thank you for sharing that observation, it is important. (Answered via Q&A)
- » Q: What is the current level of rush hour commuting, given the influence of Covid-19 and remote working?
 - » A: Thank you for the question. Unfortunately there is not a simple answer other than it is generally lower. The AM and mid-day volume is down significantly. The PM peak, depending on corridor is approaching 80 to 90% of the prior volume with a concentration between 4:45 and 5:15. A shorter duration of a pm peak condition on



many corridors. (Answered via Q&A)

- » Comment: About 675,000 people died in the 1917 pandemic in the US, and yet cities rebounded. So please let's not put safety measures "on hold" because of doomsayers about transit or employment.

Pedestrian Accessibility and Crosswalks

- » Q: I lived in Los Angeles where you were ticketed if you crossed the street outside a cross walk. If a driver ignored a pedestrian in a crosswalk they were ticketed as well. Why hasn't the city enacted a program like this to keep pedestrians safe?
 - » A: This is addressed in the plan via recommendations to conduct targeted education around specific behaviors, focused primarily on driver behavior. Pedestrian behavior is addressed through a recommendation to educate and encourage safe behaviors via a traffic safety ambassador program.
- » Q: It would help to not put pedestrian crosswalks at bus stops. Everyone is standing around looking at their phones and it's impossible to tell if someone is going to cross or not.....
 - » A: We appreciate the observation. (Answered via Q&A)
 - » A: Every bus stop is a destination and creates a demand for crossing the street at that location. Properly designing those crossings is important to encourage pedestrians to cross at the most appropriate location and to alert drivers to the potential presence

of a pedestrian crossing.

- » Q: Does the term "enhance visibility" include positive contrast illumination at crosswalks?
 - » A: Yes, contemporary practices in lighting for crosswalks is included in the plan and includes positive contrast lighting. (Answered via Q&A)
- » Q: Given the large goal of equity and accessibility, does this plan prioritize having the city clear sidewalks in the winter and to finish redoing all the curb cuts that need replacing?
 - » A: The City currently relies upon private property owners to address snow removal on sidewalks. There is a citizen report system that allows all citizens to report sidewalks that are not cleared as required. The city has a mechanism to respond to those situations starting with contacting the homeowner and up to including city forces removing the snow, if the property owner fails to, at the owners' cost. Curb cuts and ADA requirements are included in the plan. (Answered via Q&A)
 - » A: The plan does include a recommendation to complete all curb ramps and to update the ADA Transition Plan. (Post-meeting response)
- » Q: I understand the city currently relies on residents to clear the walks, but it is still very difficult for anyone in a wheelchair or even just old. Snow Buddy has shown how effective a supported system can be.

- » A: This is something the city has investigated but the funding for it will have to be decided on by council. (Answered via Q&A)

Bicycling

- » Q (Phone): I work in town, I'm a builder and I travel and my guys back and forth, we are having trouble getting across downtown because of all the lanes blocked off especially on Division. I'm wondering if the city has considered making the bike highway go down Fourth Ave instead and get it out of main arteries that drivers use and allow the bikes to be further away from drivers and still get across town and get to the Williams bike lanes that were put in as well. And that is closer to the new viaduct that comes from Argo.
- » Q: Has the city considered using Fourth Ave as the two way bike lane highway? It would require losing parking but it allows main arteries like Division and Fifth to flow better for drivers and keeps bikes safer on a less heavily trafficked road. It also allows the new tunnel from Argo dam to connect. (Q&A)
 - » A: The current People Friendly Streets initiative was guided by the Downtown Development Authority (DDA) and the mobility/accessibility was necessary in/around the downtown area. City staff coordinated with the DDA for the Division Street pilot project. In regard to 4th, we will continue to work collaboratively with the DDA and we

appreciate your suggestion. As you've noted there are tradeoffs in all modal changes within the downtown district and given the proximity/familiarity the DDA has with the individual merchant associations and constituencies within the downtown, we would be coordinating closely with them as we take your input under advisement. (Answered live)

- » Comment: hear hear - I use fourth avenue already - it is the best route and connects Packard to fuller
- » Q (Phone): There appears to be very little attention paid to biker negligence and bad behavior. As a pedestrian and a motorist I have seen bicyclist do very inappropriate things. When I raised this issue to a police officer, the problem is how you report this. Not just that but it is very unclear what biker responsibilities currently are. It seems to me that part of this session to improve safety has to involve bicyclists.
 - » A: Education of people using all modes will be an important component to increasing safety. The plan includes strategies for public education via marketing and education campaigns as well as direct education and encouragement through an ambassador program. (Post-meeting response)
- » Q: Are all these stats (e.g. 80% in the biking slide) from Ann Arbor?
 - » A: Yes (Answered live)
- » Q: It's really hard to get around on bikes in AA



- still, even with improvements downtown. In my neighborhood, bike lanes appear and disappear, leaving bicyclists on quite dangerous roads without a bike lane. What was the plan when a bike lane just disappears? I don't mind going a bit out of my way to find a safe route, but a lot of times that is just not possible. Geddes Ave is a particularly egregious example.

- » A: What we have built out is a proposed network for all ages and abilities. In terms of bike routes that don't connect currently, the focus is on establishing a full network that provides connectivity throughout the city, that just takes time to build out. (Answered live)
- » A: The city of Ann Arbor is a mature urban framework with existing land use, existing rights-of-way, and we have limits. So unfortunately, although our existing transportation plan seeks to having a connected bike lane system, the resources necessary are beyond our capacity. However, our recommendation in the plan is to continue to put priority on connecting the system. (Answered live)
- » A: The bicycle and pedestrian design and planning fields have rapidly innovated over the last 5-10 years so communities have more tools to create bike routes than we used to. The plan includes a toolbox to identify where to us the appropriate tools and how to apply them. (Answered live)
- » Q: Any plans to put main bike routes away

from main commuter routes?

- » A: Yes, a number of streets are called out in the plan as part of the low stress network. (Answered via Q&A)
- » A: We do have a number of routes that follow more local streets. We tried to focus on those low-stress routes and a lot of times those major commuter streets are hard to get to that comfort level. We tried to incorporate additional routes through neighborhoods. (Answered live)
- » Q: Are bicycle advisory lanes part of this Transportation report? I don't see this in the plan.
 - » A: The draft plan speaks to applying new techniques including pavement markings and the like that are included in design guides including AASHTO [American Association of State Highway and Transportation Officials], MUTCD [Manual on Uniform Traffic Control Devices], and NACTO [National Association of City Transportation Officials] design guide.. Advisory lanes are referenced and recommended in select applications. (Please let me know if you are not familiar with the acronyms.) (Answered via Q&A)
- » Q: I find the two-way bike lanes to be overwhelming in terms of cognitive load. It seems confusing and difficult to make left turns, for example. I also dislike the sensation of riding in a contra-flow bike lane. Has the team considered these issues? I am an experienced cyclist and

comfortable in traffic. These new modes unnerve me.

- » A: We appreciate you sharing your thoughts on this traffic configuration. This is a level of detail we aren't getting into in this meeting but we will keep this in mind as we move forward. (Answered via Q&A)
- » Q: I would support the 2:15 suggestion that bike lanes be designated on the lessor traveled streets. My travels take me east on Miller to Main and the loss of the center left turn lane to make room for a bike lane seems to be reducing safety, not increasing it. Cars blocking the west bound lane (apparently thinking it is still for left turns) and forcing cars down the bike lane for example. Moving the bike lane to a street to the north or south might be an improvement. I have seen cars in the bike lane near farmers market too, more than one.
 - » A: Thank you for sharing that observation. (Answered via Q&A)
- » Q: What is the thinking around the 2-way bike lanes on one-way streets? Can't the bike lanes follow the flow of traffic, like they *did* on Division and Fifth? What am I missing in the thinking on this?
 - » A: Tom, please send this question to ecooper@a2gov.org so we can give it the complete answer it deserves. Thank you. (Answered via Q&A)
 - » A: Two-way bike lanes are sometimes a good option to make the bicycle network complete. They are

appropriate where the physical space and infrastructure can support them and are always implemented based on sound engineering practices and industry best practices. (Post-meeting response)

- » Q: Not sure "all ages" is a good label. No way I let my 7 year old granddaughter ride in a bike lane shared with a street. She just learned how to work a two wheel bike. I think I know what you intend but not sure your label quite covers it accurately.
 - » A: Your concern is valid as experience is an important measure of comfort. (Answered via Q&A)
 - » A: The "all ages and abilities" term is consistent with national guidance from the National Association of City Transportation Officials. The goal of those routes would be to create an environment where people do feel comfortable taking families and children of all ages on a bike; however, personal comfort levels will vary.
- » Q: Plans to put bike routes away from commuter routes.
 - » A: Yes. A number of routes that follow more local streets in the plan. We tried to focus on those low stress routes and a lot of times those major commuter streets are harder to get to the lower comfort level (Answered via Q&A)
- » Q: Are the advisory bike considered to be a trial or a permanent change. If trial, how long do you expect the trial to last? Who ultimately decides which advisory bike



lines will remain.

- » A: Advisory bike lanes are used throughout North America and are a new addition to Ann Arbor. The city made the decision to put these in place on a low speed, low traffic volume residential street. There are plans for additional advisory bike lanes this spring. (Answered via Q&A)
- » Q: I am concerned that there appears to be little attention to biker behavior and negligence. As we support more access to bicycle lanes, we need to be clear about the current laws in regards to bicycling and how the laws need to be tightened to hold bikers accountable for negligence.
 - » A: We appreciate the comment. It is always a balance to make sure everyone is abiding by their rules and responsibilities. (Answered via Q&A)
- » Comment: And it would help if cyclists realized they were not visible to many vehicles with blind spots. They buzz by without checking for turn signals etc...
- » Comment: I would support the 2:15 suggestion that bike lanes be designated on the lessor traveled streets. My travels take me east on Miller to Main and the loss of the center left turn lane to make room for a bike lane seems to be reducing safety, not increasing it. Cars blocking the west bound lane (apparently thinking it is still for left turns) and forcing cars down the bike lane for example. Moving the bike lane to a street to the north or south might be an improvement. I have seen cars

in the bike lane near farmers market too, more than one.

- » Comment: Also, why did they do EVERYTHING to mess up First Street.....and Main...but why didn't they just put one bike lane going the way of traffic on First and one on Ashley going the other way.....First street...I just feel sorry for the people who live there

Traffic Signals

- » ·Q (Phone): I have a concern that I didn't see addressed in the plan and that's that our current traffic signal system currently discriminates against bicyclists because the signal progression is set too fast, and cyclists can't match that. The signals that are supposed to have cyclist detection don't have any indication on the pavement where the cyclist needs to be to trigger that detection, and it's not clear that it would actually detect you if you were in the correct location. Is there any plan that Ann Arbor will move to a system that bicyclists can trigger and actually get green lights as often as motorists do?
 - » A: We have a specific strategy focused on intersections and we can review that strategy and see how your suggestions would fit in there. With regard to bicycle detection, as technology advances, for in road monitors and alternative ways of measuring the presence of pedestrians/bicyclists/vehicles, the city is investing resources in making our system responsive to all

users. (Answered live)

- » A: A strategy was added to address signal timing and how it accounts for walking and bicycling speeds, particularly in areas or along corridors with significant walk and/or bike traffic. (Post-meeting response)
- » Q: I'll note that the intersection of Pontiac and Barton is one of the new detection systems, and it reliably gives approaching cyclists a red light. Even if there's no cross-traffic to change the signal from green to red, an approaching cyclist will get a red light. This has been reported on A2fixit, is a known problem with the systems (and is fixable), but nothing has been done. Could we also require that new detection systems actually work?
 - » A: We are actively working to ensure detection systems work for cyclists as they are replaced. If you want to share the specific A2 Fix it ticket number with me, I can look into it. My email is rkellar@a2gov.org. (Answered via Q&A)
- » ·Q: RE: signal timing: will the detection triggering assessment account for/be responsive to volumes/types of users in a corridor/at an intersection. E.g., for Washtenaw Ave. (w/40K+ ADT and unknown # of bicyclists, how would signalization be prioritized)?
 - » A: Many of the key corridor traffic signal systems are state of the art demand responsive systems. With detection for all users the system can appropriately allocate green time to all

users. (Answered via Q&A)

Next Steps and Implementation

- » Q (Phone) What's the procedure for translating the philosophies in the plan to built projects?
 - » A: To start, we have identified focus corridors and intersections, and we have developed concept designs for these that provides a fair amount of action for physical improvements. We also have identified needs for uncontrolled crosswalks and the bike network. The plan will also include a consolidation of capital improvement projects as a visual/graphic in the plan. (Answered live)
 - » A: The city's capital improvement programming process includes a prioritization process that enables us to assign priority through various parameters as we value our investments. A lot of the philosophies described in this plan with regard to safety, mobility, and equity are parameters that are used in our CIP process as well. The philosophies that are in the plan will also affect the prioritization of a variety of projects that might be even outside the transportation realm. (Answered live)
- » Q: What is the expected timeline to submit this plan to Council? We had very little to read and comprehend this plan. Once this plan gets out, I am hoping that there will a follow up citizen engagement session.



- » A: Discussed in final slide of the presentation. This transportation plan is part of the city's master plan. We will follow the master plan adoption process. Next steps will include: Transportation Commission and Planning Commission review, City Council, Washtenaw County, back to Planning Commission for final adoption and then the City Council for acceptance of the language of the plan. (Answered live)
- » The plan will also go back to the Transportation Commission after jurisdictional review (Washtenaw County and other adjacent stakeholders). Community members are encouraged to submit additional comments on the plan to Project Manager, Eli Cooper: ecooper@a2gov.org, 734.794.6430 x43710 (Post-meeting response)

School Collaboration

- » Q: (Q&A) What collaborations have been done with the Ann Arbor Public Schools (AAPS) and the University of Michigan (U-M) for the plan?
 - » A: We had representation from both AAPS and U-M on the committees. We had specific surveys targeting students at the University and a separate project that we were about to launch with the AAPS but that was right before COVID-19 lockdowns happened so we could not move forward. But we did have representation from those

groups throughout the process via the committees. (Answered live)

- » We have also coordinated directly with U-M on any recommendations on their property. (Post-meeting response)

Transit

- » Q (Phone): Around page 100, there is mention of Amtrak service. There is need for other inter-city services to be considered, such as Greyhound, Miller Transportation, and Barons Bus. Perhaps there should be a section about intercity transportation (AirRide, Amtrak, Intercity buses, UM Connector, D2A2 buses, etc.)
 - » A: Intercity buses are referenced within that strategy. (Post-meeting response)
- » Q: I believe that Packard buses already run every 15 minutes during peak times (pre-COVID).
 - » A: Thank you for sharing this information. (Answered via Q&A)

Vehicle Miles Traveled (VMT)

- » Q: Is VMT related to GHG [greenhouse gas] or reducing volume of traffic? What if all travel was by solar powered electric vehicles?
 - » A: VMT is related to both GHG and reduction of traffic volume. Increased VMT leads to congestion and delay and can degrade safety. (Post-meeting response)
- » Q: Is the VMT measurement including the outside-the-boundary portion of trips that ICLEI [International Council for Local

Environmental Initiatives] says we're supposed to count? (Q&A)

- » A: Discussed during the live presentation.
- » A: The intent for the city's plan is to address the city's VMT within the city and our jurisdiction. (Answered Live)

Parking

- » Q: Higher parking pricing shifts the cost onto low wage workers who have to commute to work here. That shifts the cost on to people who can afford it the least or requires them to spend hours on the bus to get to work. How does your plan address this inequity?
 - » A: Discussed during the live presentation.
 - » A: In the pricing strategy, we do have a qualifier about limiting the effect of any pricing strategy for low-income residents (e.g. tiered income pricing strategy).
- » Comment: Might not be a resident. Could be an hourly wage worker outside of Ann Arbor. People who earn little money can't afford to be residents....
- » Q: Why is the DDA proposing expanding the downtown parking supply (at an extraordinarily high price per space) without implementing transportation demand management techniques like pricing first? This seems counter to our transportation and A2Zero plans.
 - » Discussed in live presentation, however we can't speak for the DDA. (Answered

via Q&A))

- » The DDA is a major contributor to transportation demand management (TDM) as a partner and financial supporter; the DDA is adding incremental amounts of parking as needed to address demand and also works to evaluate and refine parking pricing to address demand. (Post-meeting response)
- » Q: A reasonable question was dismissed, so let me rephrase it - if you're planning to try congestion pricing in parking, you will need to take into account that a tremendous amount of the parking in Ann Arbor is University of Michigan parking. Are there plans to try to coordinate that with the University?
 - » A: Discussed in live presentation.
 - » A: There is a longstanding relationship with the University and the city to the extent that we can such as the Connector with intercept parking at the city's edge. The university has multi-headed organization with medical demand growing. But, we recognize that University travel affects our roadways and our transportation system and we continue to work with them to achieve our mutual best interest. (Answered live)
- » Comment: Geez, any chance we could get the University to go along with demand-based parking costs? They're half the problem there.



Healthy Streets

- » Q: I am currently amazed that what has happened so far is to decrease accident potential. So far I have had several near bad accidents with the Healthy Streets on Main.
 - » A: Thank you for the input, we appreciate your perspective on how things are working out, or not. (Answered via Q&A)
- » Q: The bottom line for me right now, is that this Healthy Streets program has been such a complete mess, I have little faith in what the city planners have in store going forward.
 - » A: Thank you for sharing your thoughts. (Answered via Q&A)
- » Q: Was the City able to gain enough data from the Healthy Streets initiative prior to their early closure?
- » The City and the DDA were able to collect scheduled data prior to the facilities reverting to general traffic patterns. (Answered via Q&A)
- » Q: Question related to Healthy Streets pilot and future plans -- Going forward, will the DDA also be the lead city agency (Eli did note that the DDA was the lead on the current pilot) for non-DDA district streets?
 - » A: Healthy Streets was a city plan, passed by city council. The DDA had it's own plan for the downtown area including expanded outside areas for businesses. (Answered via Q&A)

Crashes and Safety

- » Q: How many of the injuries in a year are from biking and how many are from walking?
 - » A: This report will help: Crash statistics, including those involving bicyclists and pedestrians, can be found in the City's annual crash report: <http://a2gov.legistar.com/LegislationDetail.aspx?ID=4586728&GUID=BF04C9E6-E6B3-4F82-9AE5-F72889111B7F&Options=&Search=> (Answered via Q&A)
- » Q: How many people are killed by bicyclists vs. automobile drivers? I suggest we prioritize accordingly.
- » Q: Here are some crash statistics that may be helpful. Crash statistics, including those involving bicyclists and pedestrians, can be found in the City's annual crash report: <http://a2gov.legistar.com/LegislationDetail.aspx?ID=4586728&GUID=BF04C9E6-E6B3-4F82-9AE5-F72889111B7F&Options=&Search=> (Answered via Q&A)
- » Q: I've looked at the sustainability framework in the past, and was shocked that it didn't have criteria to support transportation safety projects. Has this changed?
 - » A: A2Zero focuses on transportation recommendations that impact emissions and were not directly focused on safety.
- » Q: What are the most impactful engineering changes that the plan is considering and how does that compare to the expected

impact on safety that police enforcement measures will have?

- » A: The most impactful changes will be those that address the focus intersections and corridors. The specific measures to be taken at those locations, and others, will depend on the unique conditions and needs and may include only engineering measures, only enforcement measures, or some combination of those as well as the addition of education measures. There is no one strategy that will make a big enough impact to achieve all of the city's goals.
- » Q (Phone): I am excited about this plan and I've been talking about Vision Zero for a decade now. There are a couple of areas I am impressed with such as crosswalk lighting and the use of metrics throughout the plan. Given that Vision Zero focuses on reducing deaths/serious injuries of all roadway users, does the plan mention people who are riding in vehicles? They are not the more vulnerable of users, but a death is a death regardless of who the person is and we want to have buy-in from the total community.
 - » A: This plan was framed for the entire community. While there is focus on the vulnerable users, the tier 1 and tier 2 focus corridors for safety are based on vehicle-to-vehicle crashes. The priority recommendations are framed around the vehicle system. We have included the vehicle realm as a priority.

The recommendations in the plan result in safer conditions for all. Road geometric changes address vehicle safety, slower speeds enable drivers to pay better attention, and human factors such as distracted driving. This is relevant for all users, all citizens within our community (Answered live)

General

- » Q: What about allowing commercial/shopping/services in neighborhood areas?
 - » A: Discussed during the live presentation.
 - » A: There is a recommendation in the plan for 20-minute neighborhoods. Multi-use neighborhoods, including commercial businesses is important.
 - » The 20-minute neighborhood is defined as having land uses classified as a school, park, grocery, and retail within a 20-minute walk. However, the parcels classified as "grocery" may include stores such as mini-marts that don't serve fresh food. (Post-meeting response)
- » Q: The 20 minute neighborhood said nothing about commercial. It was Play, Work, School. (Q&A)
 - » A: Please refer to (UPDATED: page 112) in the draft. This language is found there "A 20-minute neighborhood is a place where residents can meet most of their daily, non-work needs (like shopping, groceries, parks, and schools) within a safe, convenient



- 20-minute walk.” (Answered via Q&A)
- » Q: Does the city only plan to blame bad drivers and exclude poor traffic engineering decisions on catastrophic outcomes?
 - » A: If you have specific concerns as far as engineering issues we would appreciate those details. (Answered via Q&A)
 - » Q: There are several 4-5-lane roads in the city, both MDOT and non-MDOT, where people have been injured or killed. Some run next to schools and have had children killed and seriously injured in them. The data-driven answer to decrease pedestrian (and driver) injuries would be to reconfigure the roads to 2-3 lanes, particularly if the traffic volumes are under 20k. So why has the lane configuration strategy been relegated only to roads that have “previously been identified”? This seems like this should be an immediate-term effort.
 - » A: We appreciate your comment. Please bear in mind this is a long-term plan. (Answered via Q&A)
 - » Q: Is there some way to suggest other metrics? For example for the first round, a really good metric would be an annual, properly-done survey of residents as to whether they think our transportation system is safe for all. Easy to measure, and highly relevant. It could be tacked onto a bigger survey of resident satisfaction. “Share of injuries and fatalities” doesn’t really get at how safe things are, since you might get lucky with a year without a problem, even the system isn’t really any safer than

the year before. You’d get a much more stable and interesting result with a survey in that case.

- » A: If you have additional metrics in mind, please share them with the project leader, Eli Cooper, at ecooper@a2gov.org (Answered via Q&A)
- » A: An annual survey is included in the plan and several of the metrics are tied to that survey.
- » Q: Is the city exploring ways of taking control of MDOT trunklines if they refuse to address dangerous speeds or lane configurations (eg Washtenaw, Huron, and Main)?
 - » A: Taking over MDOT trunklines is not currently an option. (Answered via Q&A)
 - » A: More specifically, taking over jurisdiction of MDOT streets is complicated by several factors, including MDOT’s willingness and the city’s ability to operate and maintain the facilities. (Post-meeting response)
- » Q: Improving problematic intersections is good, however if the roads leading to the intersection have an unnecessary number of lanes, improving the intersection without reconfiguring the roads leading to them is missing the point. Please employ “systems thinking” as you propose.
 - » A: Appreciate the observation. (Answered via Q&A)
 - » A: This plan outlines a safe-systems approach to planning for and designing streets that are safe for all users. (Post-meeting response)

- » Q: On p. 33 of the draft plan, Washtenaw, Packard, and S State are labeled as “Tier 1” corridors on the map but are not listed on p. 32.
 - » A: Thank you for pointing that out, we will address it. (Answered via Q&A)
- » Q (Phone): I would like to thank Eli and the group who were responsible for putting this public engagement session together. It has been exceptionally well run. I would like a follow up to this engagement session later on. A few concerns: E. Summit and also concerns at the intersection of Division and High Street. Where people have concerns about specific locations, to whom should these concerns be sent?
 - » Please submit all feedback to Project Manager Eli Cooper: ecooper@a2gov.org 734.794.6430 x43710. (Answered live)
- » Q: This is a great presentation, and the work that went in is very appreciated, and I think it could be made even better if it were presented with a bit more enthusiasm that better represents the excitement that I (and others might) feel about it!
 - » A: Thank you for sharing your thoughts. (Answered via Q&A)
- » Q: How will responses to [the in-meeting Mentimeter] survey [about metric] be translated? For example, would prioritization rating for “share of commute trips by walking, biking, transit” equate to a recommendation to update zoning, adopt transit-oriented development, and other land use recommendations?
 - » A: Discussed in the live presentation.

- » A: We have some recommendations in the plan regarding land use zoning and transit supported land uses. The ranking question is to give the city an idea what is the most important metric to be considering according to the public. But everything proposed as a metric has recommendations supporting that metric already included in the document.
- » Q: Sorry to say that the mentimeter surveys have not been helpful at all!
 - » A: Appreciate your feedback. (Answered via Q&A)
- » Comment: I loved walking in my neighborhood, but now there is traffic because all the usual ways are blocked.... Main St, First St....Fifth St etc....Main isn’t blocked, but it has become much more difficult to navigate...
- » Comment: The biggest problem is that the roads are already dangerously narrow. Double Tractor trailers use the streets in Ann Arbor...
- » Comment: That is because people LIVE there....and have cars.....it’s getting really bad to park in our neighborhood.....
- » Comment: You can’t build lots of apartment buildings and not expect increased automobile traffic...
- » Comment: Members of my family work in Detroit and Livonia.....they are just glad they are working...
- » Comment: What I don’t understand, is that the development downtown in the past decade has been tremendous. Two



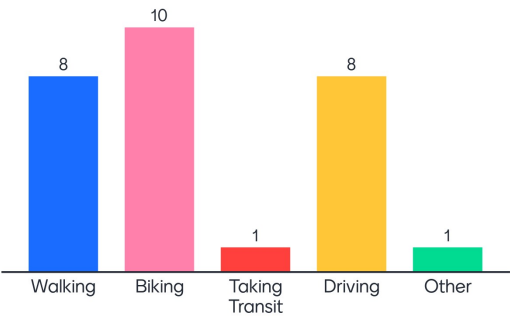
apartment buildings just on Main St at Mosley and Madison. They tore down the South main Market to do that. Now they are trying to narrow lanes right where they have increased population and decreased access to a local grocery outlet etc. There is a lot more traffic with these buildings. Turning onto Main is more dangerous with these building. There is a 7/11 there too. And then they put orange barrels everywhere to narrow lanes. The city needs to get together on whether they want to keep building apartments, or decreasing traffic. These things are not compatible, and trying to implement the Healthy Streets on South Main has been largely unused, and unsafe for motorists.

- » Comment: Thanks for the opportunity to participate, and for your work on these issues, it is much appreciated! Continued movement towards less vehicle traffic and reducing carbon emissions while increasing pedestrian and bicycle safety is the way to go for Ann Arbor.
- » Comment: When I hear that enforcement against residents is the chief means of improving safety, I am not optimistic about achieving the safety goals!
- » Comment: Thanks for the opportunity to participate, and for your work on these issues, it is much appreciated! Continued movement tow

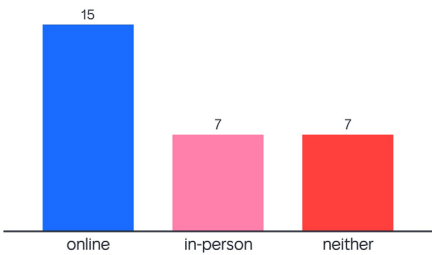
Mentimeter Results

During the virtual meeting, the Mentimeter polling platform was used to interact with participants. Below are the Mentimeter results.

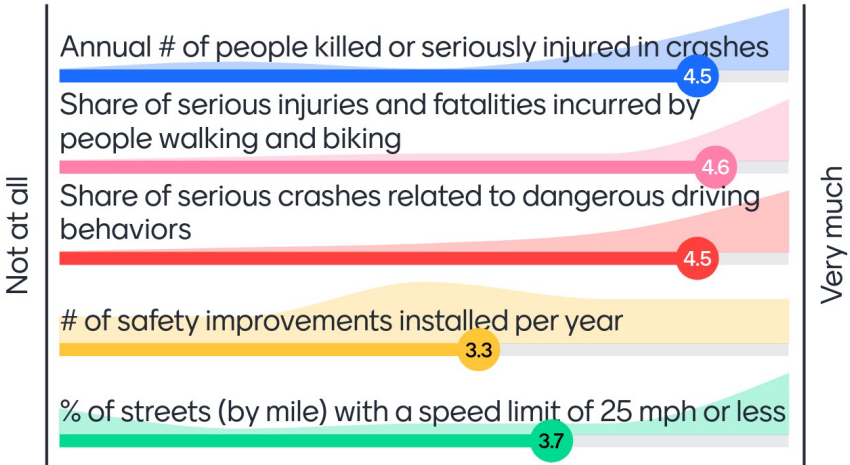
What is your favorite way to get around?



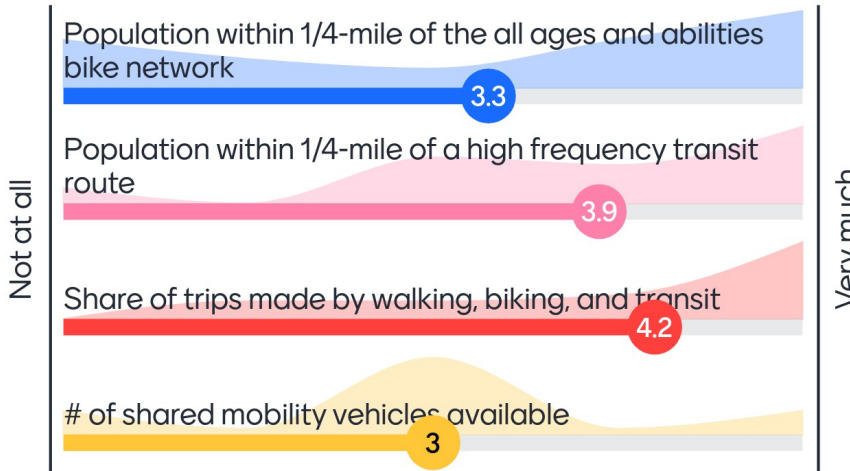
I have participated in public engagement for this plan



Do you support each SAFETY metric?

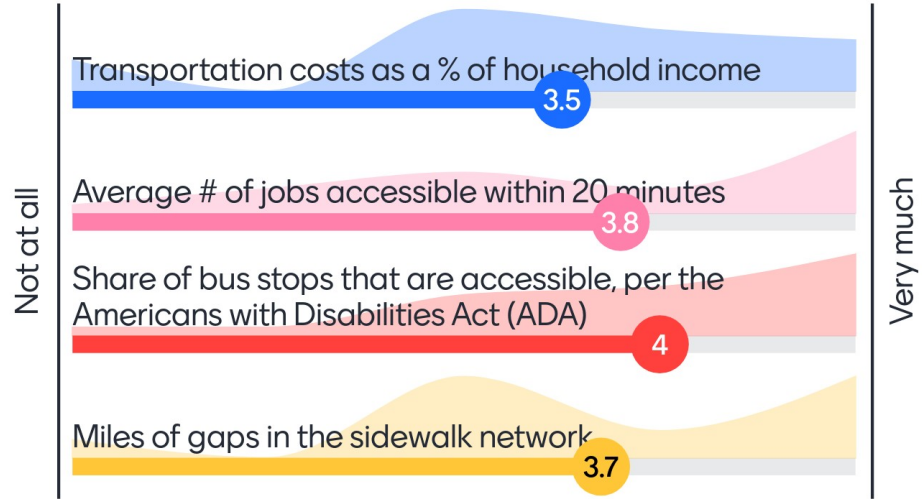


Do you support each MOBILITY metric?



Do you support each ACCESSIBILITY metric?

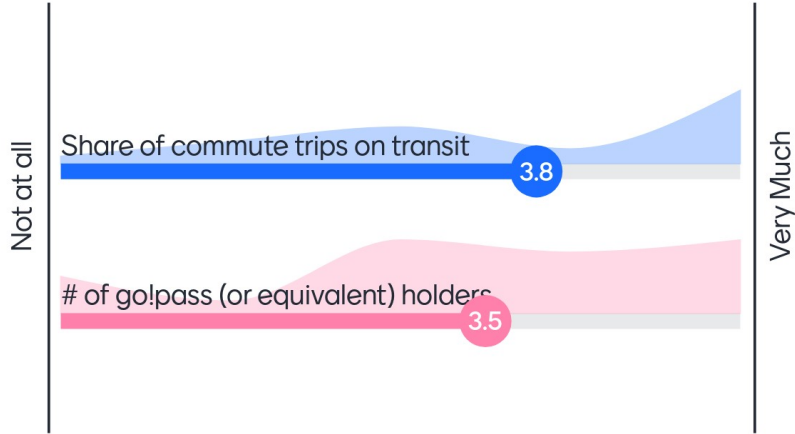
Mentimeter



23

Do you support each REGIONAL CONNECTIVITY metric?

Mentimeter



22

Do you support each HEALTHY/SUSTAINABLE metric?

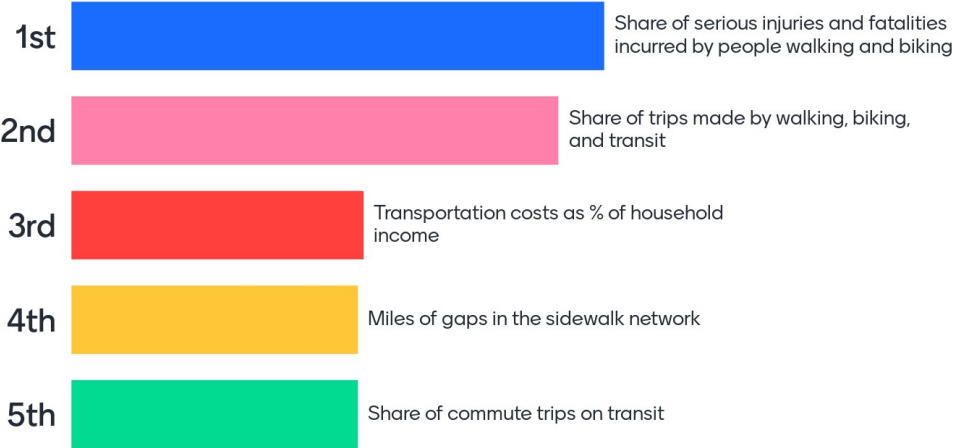
Mentimeter



25

Rank the following metrics by importance

Mentimeter



23



3. CAC Meetings

The Community Advisory Committee (CAC) consisted of individuals with a broad spectrum of interests related to the city’s efforts to update the comprehensive transportation plan. The CAC provided feedback, from a community perspective, on the plan development, including its scope, content, direction and recommendations. They also provided guidance on the best approaches for engaging stakeholder groups and the broader public over the course of the project.

Meeting #1

Results below reflect the comments of focus group participants. Individuals who travel in and around the City of Ann Arbor stated they use a variety of transportation modes including automobiles, buses (TheRide/ AAATA, UM, Megabus), bikes, walking, trains, scooters, mopeds, motorcycles, bike share, car share (Zip Car, Maven), and on-demand services such as Lyft and Uber.

Attendees

- » 23 CAC Members
- » 2 City Staff
- » 4 Consultants

Introduction

The committee introduced themselves by responding to the question and discussing their favorite Ann Arbor streets.

Q: What is your favorite street in Ann Arbor?
A: Liberty (+5); Main (+4); State (+2); W Washington (+1); E Madison; Arbana ;Packard King George; Hickory Lane Miller (Maple – 7th); Baldwin; Any well-lit street with lighted sidewalks; Jefferson; Ashley; N Main; Eisenhower; 7th; Hilldale; Detroit; KMS Place; 5th; Washtenaw; Huron Parkway; Geddes

Key Takeaways:

- » People love where they live

- » Residents want slower streets
- » It’s not just the street that matters, but the uses and variety along it
- » Importance of tree canopy and connections with nature

Plan Overview

The consultant team gave a presentation, providing an overview of what a comprehensive transportation plan is, the history and background of Vision Zero, and an overview of the process that this plan will follow, with a focus on the public engagement component and the committee’s role in the planning process.

Findings: Public Survey and Focus Groups

The consultant team reported on public engagement efforts to date, which included 4 focus groups and a survey conducted online and as an intercept survey. A total of 30 participants took part in the focus groups. A total of 1,859 responses to the survey were recorded, with 1,801 coming from the online version and 58 from the intercept survey. Key takeaways from the public engagement are included in the presentation.

Goals from Other Plans

The presentation included an overview of

goals from the following previous planning efforts in Ann Arbor:

- » Master Transportation Plan Update (2009)
- » Non-motorized Transportation Plans (2013 & 2017)
- » Sustainability Framework (2017)
- » Parks & Recreation Open Space Plan (2015)
- » Master Plan: Land Use Element (2009)

In addition, examples of values and goals used to guide plans in other cities were provided as background for committee members and in order to frame the discussion for the values and goals exercise.

Values and Goals Exercise

The committee had an open discussion on the values that should drive the plan update. The discussion was consolidated into ten clear values and the committee was polled to determine which were of the highest priority. Committee members shared the following questions and perspectives:

- » Were any driving schools invited to participate in this committee or the plan update process?
- » We need to continue to value the motor vehicles, it is an important part of the economy—how do we value multimodalism without demonizing vehicles?
- » We need to prevent school children from



- dying. There is not enough lighting/signaling for motorists.
- » Address infrastructure to keep up with growth.
 - » Equity and transportation costs are important- everyone should be able to get around.
 - » Don't forget movement of goods.
 - » Consider those with different abilities: seniors, people with children, etc.
 - » We need more education on the value and benefits of active transportation.
 - » Leverage the academic community, where people live/work on the north side.
 - » Thousands of people drive into the health system, how could people share and connect their driving with academics?
 - » Recognize that Ann Arbor is also a hub for infrequent visitors who drive in - how can we engage them in multimodal / safety culture?
 - » Accessibility, as a metric - how successful are we?
 - » Sense of place is diminished by gridlock – additionally, consider for safety.
 - » During football season, a lot of people come into town but there is only one way out.
 - » We want a system that functions well and is easy to use.
 - » Consider solid waste coordination.
 - » Committee needs better minority representation – plans and strategies need to be antiracist.
 - » Design with safety in mind and encourage

- safe behavior – people hop on scooters with no helmet.
- » A system that connects to other major cities would make us competitive.
 - » Shared responsibility among all roadway users (pedestrians, motorists).
 - » Civic engagement, maintenance, and aesthetics – dedicate resources to upkeep, make it attractive.
 - » Training and education for everyone.
 - » Be flexible - things change, there is no set mindset, and pursue a multimodal system for everyone.
 - » Neighborhoods don't exist as a thoroughfare, value their sense of place.
 - » Professionalism is important. Scientific safety data, and technical assessments shouldn't be political
 - » Remember the context – it is easier to get around here than other places.
 - » Understand the regional aspect – roads don't stop at the city.
 - » What do we have that works and what doesn't? People can't get home on AAATA after 9 p.m.
 - » When will we deal with issues such as commuters who drive in? Not everyone can walk or bike.

Final Values Polling Results:

- » Mobility for all (20)
- » Safety (20)
- » Equity and accessibility for all (15)
- » Accommodate growth/ economic

- development (9)
- » Regional Connectivity (9)
 - » Environment (5)
 - » Livability (5)
 - » Sustainability (4)
 - » Professionalism/Expertise (3)
 - » Education (3)

Goals Discussion

The committee was broken up into six small groups for a goals and strategies discussion. Each group was assigned one of the top-ranked values and asked to brainstorm goals and strategies for that value, without concern for which was a goal or which was a strategy.

1) Multimodalism

- » Integration of multimodalism = safe mobility.
- » Share the roads and sidewalks.
- » Education and knowledge of how all modes interact.
- » Support a culture of understanding the rules of the road.
- » Physical barriers for bike lanes.
- » Adequate lighting at every crosswalk.
- » Additional flashing beacons and Rectangular Rapid Flashing Beacons (RRFBs) at major crosswalks.
- » Additional speed notice signs.
- » Designated public transit lanes where width is available.
- » Connected sidewalks and sidewalk gap eliminations.

- » Sidewalk maintenance.
- » Safe Route to School best practices and policies implemented around schools.

2) Equity

- » Reasonably accommodate all modes of transportation when part of a larger, logical system for that mode.
- » Expand non-motorized modes of transport
- » Expand mass transit service.
- » Address lack of affordable housing.
- » Transport network that serves people of all abilities, ages, income, and racial/ethnic minorities.

3) Economic Development

- » Reduce dwell times for delivery vehicles/ solid waste (e.g., schedule deliveries, limit allowable delivery times). Increased enforcement in alleys.
- » Lessen overall impact of goods deliveries on the system.
- » Encourage the use of smaller vehicles for delivery.
- » Curb management
- » Increase accessibility to downtown without single occupancy vehicle (e.g., active modes, satellite parking).
- » Pedestrian malls.

4) Safety

- » Zero Deaths
 - Best practices (data-driven, progress.)
 - Reduce Vehicle Miles Traveled (VMT).



- Reduce speed (25 mph citywide).
- No turn on red.
- Pedestrian–priority signals.
- Education on driving distractions.
- Scooter regulation.
- Illumination.
- Consistent crosswalk markings.
- Technological monitoring of pedestrians.
- Environmental signaling
- Pedestrian islands.
- Build Vision Zero into driver training curriculum.
- » Signaling appropriate behavior through design (e.g. stopping for peds)
 - Always clear pedestrian/cycles system routes.
 - Fill sidewalk gaps.
- » Reduce distractions

5) Livability

- » Connective land-use.
- » Equitable housing stock.
 - A vitality of public spaces
- » Consistent, sufficient funding for maintenance through strategic mid-life asset investments; build for the future
 - Re-use infrastructure when it becomes antiquated (e.g. parking lots, gas stations, automotive repair shops).
- » Reduce smog.
- » Improve transportation network gaps (e.g. sidewalks, bike lanes). Insulate pedestrians through complete streets.

6) Regional Connectivity

- » Establish/solidify Ann Arbor as the center of the region (“all modes lead to Ann Arbor”).
- » Link Ann Arbor to Detroit via rail or other transit alternative.
- » Strategically position satellite parking lots around the city to capture commuters.

Next Steps

The consultant team informed the committee of the upcoming open house and pop-up meetings on June 13 and 14, 2019, of upcoming committee meetings, and invited committee members to provide ideas on opportunities for additional community engagement.

Meeting #2

Attendees

- » 20 CAC Members
- » 10 Public Attendees
- » 3 City Staff
- » 3 Consultants

Public Engagement Review

The consultant team provided an overview of public outreach activities that occurred since the previous Community Advisory Committee (CAC) meeting, including one Open House event at City Hall and one pop-up event at the Mayor’s Green Fair.

Draft Values and Existing Conditions Review

Five values were drafted from CAC, Technical

Advisory Committee (TAC), and public input; these values will serve as an organizing framework for the plan. The values are Safety, Mobility, Accessibility for All, Healthy People/ Sustainable Places, and Regional Connectivity.

Draft value statements and findings from the existing conditions analysis were presented to the CAC.

The complete CAC Meeting 2 presentation is available on a2gov.org/A2MovingTogether. Comments and questions from committee members are captured below. Responses from the project team are shown below.

Safety

- » Why separate state routes from others?
 - The city does not control roads under state jurisdiction
 - The majority of severe injury bicycle and pedestrian crashes occurred at intersections
- » Where are the “tiers” of focus corridors and intersections coming from?
 - The tiers were developed based on locations of high incidences of fatal and severe injury crashes and incidences of pedestrian and bicycle crashes. The methodology was developed based on a review of analyses in other cities working towards Vision Zero and in consultation with City of Ann Arbor staff to be consistent with local

practices.

- » Did the project team review the actual crash reports?
 - Crash reports were reviewed for a subset of the serious injury and fatal crashes to determine if there were discernable trends in behavior.

Mobility

- » Include the number or percentage of the population that is car-free. Stating this as a percentage increase could be easily misinterpreted.
- » When did the Ann Arbor Area Transit Authority (AAATA) service area expand? What area have demand to be added?
 - Statistics on crosswalk spacing and amenities should include a differentiation between the type of street or functional classification.
 - The trend data are being presented over different time periods, making it difficult to compare
 - All public infrastructure is funded by the City except sidewalks
- » In which corridors in Ann Arbor could we currently increase person throughput by reallocating space? What are the opportunities for increasing throughput while reallocating space?
- » What is the relative cost for biking and pedestrian access, as compared to driving and transit?



Accessibility

- » How do electric-assist or electric bikes expand access to jobs by bicycle?
- » What happens when you begin to overlay zoning and potential development? In the past 5-7 years, Ann Arbor has seen an additional 7,000 students, 9,000 more faculty and staff, more companies, more employees; how will this plan take this and anticipated future trends into account?
 - » The transportation plan will align with current and anticipated needs.
 - » Appropriate growth levels will be applied to this process; the team is working with Washtenaw Area Transportation Study (WATS) to take travel projections into account and with city planning staff to take land use assumptions into account.
 - » Planning and Development staff are participating on the TAC and will provide input and guidance from a land use planning perspective.
- » Accessibility is also a land use strategy
- » Has the project team studied accessibility by race, income, neighborhood?
 - » The results of this analysis will be included in the existing conditions report, but were not presented at the committee because there is no clear conclusion at this time.
- » Will there be targeted outreach to underserved, underrepresented community groups?

- » The team is currently working with Peace Neighborhood Center to schedule a pop-up meeting in October, aligned with their Family Night.
- » The team reached out to several additional groups to join the Community
- » Advisory Committee, based on feedback at the last meeting; additional suggestions for groups to engage are welcomed.

Regional Connectivity

- » How many people are coming from outside TheRide’s service area?

Small Group Discussions

Following the presentation, committee members worked in small groups to discuss strategies for addressing the transportation challenges facing Ann Arbor. Each group focused on one of the following types of strategies: Education/Encouragement, Engineering, Equity, or Enforcement. Groups brainstormed strategies and identified each as high, medium, or low priority and short-, mid-, or long-term; results are provided below.

Education and Enforcement

- » Commuter benefits ordinance; require employers citywide to offer pre-tax transit
- » passes (medium priority, short-term)
- » Safe Routes to School; establish non-auto routes, or specific auto routes (high priority, short-term)

- » Informing parents
- »
- » Continual education
- » Incentives
- » Provide bus passes for high school students to use AAATA instead of yellow bus (high priority, short-term)
- » Educate parents of school-aged children (high priority, short-term)
 - » Encouraging away from reliance on single family car
 - » Post-meeting note: An example program is the Columbus Commuter
- » Challenge <https://morpc.gohio.com/regional-programs/commuterchallenge/>
 - » Address perception of safety for kids getting to school
- » Improve visitors’ bureau (Destination Ann Arbor) web resources (high priority, mid-term)
- » Partner with the University of Michigan and Destination Ann Arbor for their visitors (faculty/staff/students/parents) (high priority, short-term)
- » Education for UM freshman parents
- » UMadvertisementthroughfootballstadium screens – public pressure for public service announcements (high priority, short-term)
- » Demonstrate that you can get around here without a car
- » Require/allow development to minimize parking or move it underground (high priority, long-term)
- » Congestion tax (low priority, long-term)

- » Education campaign for 5-ft passing ordinance (high priority, short-term)
- » Utilize social media campaigns for education (high priority, short-term)
- » Focus education at entry corridors (medium priority, mid-term)

Engineering

- » Establish protected bike lanes and other low-stress bike routes, including signed bike routes (high priority)
- » Address barriers to crossing the expressways on bike at the edge of the city; particularly at State Street and I-94 (high priority)
- » Allow bicyclists to use the shoulder as a rule
- » Build out regional bikeways
- » Keep certain corridors dedicated/ designated for cars
- » Don’t widen right-of-way by condemning property to add capacity or bike facilities
- » We need political will to prioritize safety over throughput
- » Design roads for the speed we want
- » Use roundabouts to increase flow (10mph roundabouts) (high priority)
- » Need to increase awareness, particularly of different types of crosswalks
- » Distance between crosswalks is an issue, along Washtenaw, for instance (high priority)
- » Lagging left turn arrows
- » Engineer slower roads (high priority)
- » Build and ensure capacity to maintain off-street bike paths



- » Use smart signal technology and better traffic signal progression; this could be a good trade-off for slower speeds (high priority)
- » Establish a 20mph universal speed limit; cars move more efficiently at slower speeds
- » Increase availability of bike lockers and/or attended bike parking
- » Scooters should be in bike lanes
- » Expand/bring back bikeshare
- » Bike lanes should extend to the intersections where there are heavy right-turn volumes
- » Bike boxes at intersections
- » Flashing lights at every crosswalk where speeds are greater than 25 mph
- » 4-lane to 3-lane conversions (high priority)
- » Infill sidewalk gaps (high priority)
- » Use rumble strips to slow cars in key locations, such as along Nixon

Equity

- » “Accessibility for All” value statement should explicitly state “ages” and add “cultures” to races & ethnicities
 - » Will there be an online mechanism for either the CAC or the public to give feedback on the values and goals?
 - » Post-meeting note: Draft materials will be posted online for people to provide input. The public will also have the opportunity to provide additional feedback at future in-person outreach events.
- » Identify/call-out fatalities and injuries of

vulnerable users and the demographic makeup of areas with low safety/high crashes

- » Conduct a deep dive into Safe Routes to School routes: Where are they? How suitable are they?
- » Maintenance vs. improvements: How can things be prioritized above and beyond the normal “routine”?
- » What is today’s project selection process, for making transportation system improvements? What factors are currently considered?
- » Address funding for sidewalk gaps (currently must be filled by homeowners, those who need sidewalks most may not be able to afford them)
- » Empower people to advocate for themselves through...
 - » Mapping
 - » Targeted outreach to vulnerable populations (Who/where are these? How to identify?)
 - » Partnering with community liaisons to share, promote, communicate projects and processes (How to designate these folks?)
 - » Those who advocate for/against new infrastructure get what they want (e.g., Maple bike facilities)
- » Address mobility issues for individuals (speed of a person’s gait as a barrier to safety/mobility)
 - » 3rd & Huron is dangerous for

pedestrians (senior housing, kids getting to West Park) - regular traffic light going in soon!

- » Understanding the historical/cultural reasons why people don’t use infrastructure the way it’s supposed to be used and targeting education (e.g., riding the wrong direction / against traffic)
- » Prioritize child mobility and safety; car crashes are the number one cause of death for people 8 or under
- » Prioritize vulnerable populations from outside Ann Arbor traveling in
 - » Make transit for these folks faster (Bus Rapid Transit (BRT), express, etc.)
- » Require employers to provide transit passes for employees (expand GoPass program)
- » Uplift the dignity of taking transit
 - » Amenities at stops
 - » Allowing bags on the bus (groceries)
- » Prioritize street lighting and signage in high-need neighborhoods
- » Provide bike lights for low-income folks
- » Expand bikeshare/offer more bikes for free
- » Formally commit to equity as a value
 - » Dedicate a staff person (equity officer) to equitable outreach (e.g., Washtenaw County, City’s Office of Sustainability)
- » Address each goal of the plan through the lens of equity (equity as a key criteria of each strategy)
- » Ensure the cultural competency of individuals doing research and work
- » Ensure that accessing downtown remains

affordable

- » Privatization of parking leads to more expensive parking
- » More governmentally-controlled parking structures?
- » Low-income parking passes?
- » How to pay for parking if cash is not an option?
- » Address the fact that not everyone has the luxury of time
- » Address walking long distances in the winter as a barrier to transit use (injuries, especially for seniors)
- » Target education to those who have the ability to choose inform what the impact of our choices is on the community
- » Having the right people at the table and bringing the table to those who need to be at it
- » Compensate community members for their time, provide childcare
- » Define what we mean by “equity”
- » Provide greater care/services for vulnerable communities (not just equal)
- » Short-Term Strategies:
 - » Target investments in disproportionately affected communities
 - » Improve outreach to vulnerable communities
- » Longer-Term Strategies:
 - » o Ensure affordable access to destinations throughout the city (especially downtown)



Enforcement

- » Enforce appropriate/safe bike behavior
- » Remove biking on sidewalks (DDA) & difficult if no safe on-road option!
- » Prohibit use of headphones by pedestrians/ bikers
- » Reduce speeds to 25 mph
- » Enforce against distracted driving
- » Explore systems to self-enforce
- » Enforcement of E-scooters on sidewalks
- » Rules for where to park and use scooter
- » Incentivize flexible (non-peak) commuting
- » Zoning to build business/employment growth outside the core
- » Working with employers to reduce parking (incentives, etc.) - no monthly pass
- » Use of high occupancy vehicle (HOV)/shared mobility lanes
- » Speed enforcement cameras
- » Create phone-based tracking incentives
 - » Post-meeting note: An example program is Allstate’s “Drivewise”
- » Enforcement of parking regulations through technology
- » Creation of “Safe Bike Routes” or bikeways

Next Steps

The project team will continue to build an existing conditions report incorporating input from the CAC, TAC and the public. A pop-up meeting is planned for October, pending confirmation with the Peace Neighborhood Center. Additional online engagement

activities are coming soon, beginning with a bicycle-focused activity. The CAC will be informed in advance for all engagement activities.

The strategies discussed at this meeting will be compiled and presented to the TAC for feedback and discussion of priorities and timelines.

Meeting #3 Attendees

- » 12 CAC Members
- » 6 Public Attendees
- » 2 City Staff
- » 3 Consultants

Plan Progress Update

The consultant team provided an overview of public outreach activities that occurred since the previous Technical Advisory Committee (TAC) meeting, including one Open House event at City Hall on November 20, 2019; an online survey regarding the focus corridors, active between the Open House and December 9, 2019; and an online survey regarding pedestrian crossings, active in January, 2020.

Overview of Innovative Strategies

The consultant team provided an overview of strategies that are being considered for incorporation into the plan. The discussion was intended to provide background for the

prioritization exercise. The strategies reviewed can be found in the presentation.

Prioritization Exercise

Committee members were divided into groups, based on the values of the plan:

1. Safety
2. Mobility
3. Accessibility
4. Healthy People/Sustainable Places
5. Regional Connectivity

Members were provided draft goals and strategies associated with each value and asked to indicate where they felt the strategy fell on a spectrum of impact and ease of implementation. Results from this activity as well as the draft list of strategies are attached to these meeting notes.

In the small groups, led by a facilitator from the city or consultant team, the groups also discussed the strategies generally and what groups, departments, or agencies should lead and support the implementation and what barriers there might be to implementation. Notes from that discussion are provided here:

Safety

Prioritizing investments and educating the public are good strategies.

- » There is overlap among the strategies involving committees in the first goal;

people want to see action, not more committees.

- » There was general support for automated enforcement.

Strategy 1.1: Prioritize transportation investments strategically according to safety criteria

- » Partners: Ann Arbor Area Transportation Authority (AAATA), Center for Independent Living (CIL), Schools/School communities, Washtenaw Biking and Walking Coalition (WBWC)

Strategy 1.2: Target capital investments and other resources (educational, enforcement) on addressing dangerous behaviors (Behaviors include: Failure to yield, impaired driving, speeding, disregard for traffic signs and signals, reckless and careless driving)

- » Partners: Strive for a Safer Drive (school-based program), Hospitals and senior education programs
- » Anticipated Barriers: Seniors tend to be anxious in navigating roundabouts, by various modes

Strategy 1.3: Establish an interim treatment policy/practice to improve safety in the immediate term

- » Partners: Ann Arbor Downtown Development Authority (DDA), St. Joseph Mercy Health System



» Anticipated Barriers: Political opposition

Strategy 1.4: Establish a protocol for responding to fatal and serious injury crashes

- » Expand on the crash review committee.
- » Support for the communication response to crashes.
- » Anticipated Barriers: Risk of lack of follow-through on the findings of the crash review committee; this is a slow way to make progress

Strategy 1.7: Increase access to accurate and timely crash data

- » Partners: University of Michigan (UM), St. Joseph Mercy Health System
- » Goal 2: Educate residents and visitors about safe behaviors and city efforts to improve safety
- » Condense the education strategies.

Strategy 3.1: Create encouragement programs and/or incentives to help people make sustainable transportation choices

- » Consider prioritizing certain schools.

Strategy 3.5: Price trips according to impact on the city

- » Mixed opinions on the idea of roadway pricing, but agreement that Ann Arbor was unlikely to implement something like this. It would be nice to do something like this on football Saturdays.
- » Other strategies:

- » Consider a strategy to eliminate right turns on red.
- » Consider public carshare.
- » Use pilots to test strategies; the strategy to use interim treatments is a good approach

Mobility

Goal 1: Establish and maintain a safe, connected bicycle network throughout Ann Arbor

- » Lead: City, DDA
- » Partners: Washtenaw County Government, Washtenaw County Road Commission (WCRC), Township Government, Bike Alliance, WBWC, Neighborhood groups
- » Anticipated Barriers: Michigan Department of Transportation (MDOT), community support or pushback, vocal minority, cost, lack of support from current council

Strategy 1.1: Plan for and build out a network of low-stress bike routes

- » There would be a difference in ease of implementation between local streets and arterials.

Strategy 1.2: Focus safety improvements at most vulnerable locations along designated bike routes

- » Protected intersections and bike signals would be hard to implement.
- » Conflict markings would be easier to implement.

Strategy 1.4: Continue to expand short-term and long-term bicycle parking throughout the city

- » Recommend crowd-sourcing locations for new hubs.

Goal 2: Build out a complete pedestrian network

- » Lead: City, DDA
- » Partners: MDOT, WBWC
- » Anticipated Barriers: MDOT, lack of support from current council, cost

Strategy 2.1: Prioritize filling in sidewalk gaps that impact vulnerable communities

- » This shouldn't be hard, but it is.

Strategy 2.2: Focus on pedestrian safety improvements at pedestrian crossings

- » Don't just switch luminaries, but go to increased contrast.

Goal 3: Increase attractiveness of transit service

- » Lead: City, AAATA, UM
- » Partners: CIL, WBWC, DDA, WCRC, Washtenaw County, Township government
- » Anticipated Barriers: Ridership, cost

Goal 4: Evaluate roadway and development projects with regard for all modes of travel

- » Lead: City
- » Partner: DDA
- » Anticipated Barriers: Developers

Goal 5: Maintain access for all modes through construction, operation, and maintenance of facilities

- » Lead: City
- » Anticipated Barrier: Cost

Accessibility

Strategy 4.2: Improve multi-modal access to transit stops

- » Lead: AAATA
- » Partners: Micro-mobility groups, walk/bike groups, developers
- » Anticipated Barriers: Siting/physical space, cost

Strategy 5.1: Provide resources and reduced fees for transit and shared mobility services

- » Lead: AAATA, voters (millage to pay for it), city
- » Partners: Community organizations, low-income housing sites
- » Anticipated Barriers: People actually using them if they're made available

Strategy 5.2: Uplift the dignity of taking transit

- » Lead: AAATA

Strategy 6.1: Establish criteria for connected street networks in new developments

- » Add redevelopments
- » Lead: City planning
- » Partners: Developers, DDA, business owners
- » Anticipated Barriers: Developer costs



Strategy 6.2: Establish curbside management policies in the downtown area

- » Lead: City, in coordination with agency that has jurisdiction of street; DDA
- » Partners: Business owners, Main St., Kerrytown, University districts, AAATA, trucking companies
- » Anticipated Barriers: Controversy

Strategy 6.3: Right-size parking throughout Ann Arbor

- » Lead: City, DDA
- » Partners: Developers, citizens, UM/hospital, downtown businesses/employers
- » Anticipated Barriers: Pushes parking into the neighborhoods?; potential for community opposition

Strategy 6.4: Commit to Equitable Programs and Outreach

- » Lead: City w/County
- » Partners: Community organizations, Community Action Network (CAN), CIL, Peace Community Center
- » Other strategies:

Healthy People, Sustainable Places

Strategy 1.1: Emphasize neighborhood centers through streetscape of primary corridors

- » Lead: City, DDA
- » Partners: Homeowners associations, Arts Alliance, Ann Arbor Art Center
- » Anticipated Barriers: Use of public funding

Strategy 1.2: Enhance underpasses to improve comfort and encourage connectivity

- » Lead: City, in coordination with agency that has jurisdiction of street
- » Partners: Arts Alliance, Arts Center
- » Anticipated Barriers: Cost of new infrastructure, MDOT

Strategy 1.3: Create flexible or shared street spaces in strategic areas in the downtown

- » Lead: DDA
- » Partners: Business associations

Strategy 2.1: Reallocate ROW to provide more public space

- » Lead: City, in coordination with agency that has jurisdiction of street
- » Partners: DDA, AAATA, business associations, grant funding, Ann Arbor Area Community Foundation

Strategy 3.4: Improve collection of local air quality data

- » Lead: UM

Regional Connectivity

Strategy 1.2: Allow and encourage transit-oriented development along high-capacity transit routes

- » Lead: City
- » Partner: AAATA
- » Anticipated Barriers: Political will

Focus Area Overview

The consultant team provided brief overview of the focus corridors and intersections that will be the subject of further evaluation and conceptual design development through this plan process. The overview included a review of the criteria that were used to identify the sites, which are as follows:

Focus Corridors

1. Plymouth Road (Murfin Ave. to US-23)
2. Miller Avenue (Downtown to M14)
3. Washtenaw Avenue (Stadium Blvd. to US-23)
4. Fuller Road (Bonisteel Blvd. to Fuller St)
5. S. Main Street (Huron St to Ann Arbor-Saline Rd)

Focus Intersections

1. Washtenaw & Hill
2. Liberty & Division
3. Ann & Glen
4. Packard & Platt

Comments

General comment cards were provided to committee members and the following comments were recorded:

- » Can we have a contact list of CAC members?
- » I heard discussion of “mixing zone” prior to intersections so that cars turning right at the curb with the bike lane to their left.
- » I understand the logic and perhaps the “rules of the road” requirements, but I

find the actual “mixing zone” incredibly confusing & dangerous.

- » Mid-block crossings without blinking lights when there are 2+ lanes in a single direction are horrible. (Huron between Rockham & North Quad.) A driver cannot see the pedestrian hidden by a stopped car in the other lane.
- » I strongly dislike “contra-flow” bike lanes unless they are physically separated (not just striping) from the road.
- » Consider empowering committee members to help with facilitation if needed.
- » Bike lane stress map
 - » Packard, 5th – State = high-stress; tons of traffic, lots of cars turning
 - » Packard, State – Stadium = medium-stress; high traffic, but less cross traffic issues
 - » Packard, Stadium – Stone School = low-stress; lower density traffic & wide bike lane

Meeting #4

This meeting was the final meeting of the Community Advisory Committee for the Ann Arbor Transportation Plan Update. Due to public health considerations, this meeting was held virtually via the Zoom platform, using the Zoom Webinar feature. The format of the meeting followed a pattern of a series of slides, followed by a poll, followed by an open question and answer period. The following outlines the presentation and question and



answer portions of the meeting.

Attendees

- » 14 CAC Members
- » 6 Public Attendees
- » 4 City Staff
- » 4 Consultants

Introduction

The consultant team provided an overview of the planning process, including the public engagement process and highlights from the phases along the way, including the plan goals, the plan values of Safety, Mobility, Accessibility for All, Healthy People/Sustainable Places, and Regional Connectivity.

The consultant team also provided an overview of the plan document. Based on input from the Technical Advisory Committee, the Transportation Commission, and the Community Advisory Committee, a list of strategies that had been compiled from best practice research and stakeholder input was refined. The resulting full list of strategies was organized by timeline and priority based on what would be needed to help the City of Ann Arbor achieve its two main goals of achieving zero deaths and zero emissions. In the plan document, each strategy is associated with the value or values it represents, which ‘E’s it represents (Engineering, Education, Encouragement, Enforcement, Equity, and Evaluation), and the timeline in which the strategy should be initiated.

The consultant team provided an overview of how the metrics for the plan were derived:

1. Validity – does the metric accurately measure the result?
2. Reliability – does the metric remain consistent over time?
3. Simplicity – is the data easily available and we have the resources to measure it?
4. Meaningful – if the measure improves, have we improved mobility and people’s lives in Ann Arbor?

Strategy Overview & Metrics

The consultant team provided an overview of some of the key strategies that address each value, followed by a polling session and a question and answer session. Below are notes from the question and answer session that followed each value discussion, including both questions and comments. Comments and questions submitted in writing through the Zoom Q&A feature are provided as submitted, which may include typographical errors. For each question or comment below, it is noted whether the question was asked live (via phone) or through the Q&A feature and whether it was answered live or is being answered here as a post-meeting response.

- » Q: Are all these stats (e.g. 80% in the biking slide) from Ann Arbor? (Q&A)
 - » A: Yes (Answered live)
- » Q: Traffic levels were up and vehicle crashes were not rising, the numbers were looking

better, are we looking at absolute numbers or percent of modes as well. (Asked live)

- » A: Both, we want to look at absolute numbers because we are trying to eliminate all crashes (Answered live)
- » The safety improvements installed seem too vague – maybe instead focus on a % improvement on each of the other categories every year (Q&A)
- » Given the pandemic, perhaps a switch from fixed routes to a hub and spoke system needs to be considered for transit. This can lessen the total time a person is on a bus and exposed to viral load (Shortening transit travel time with a hub and spoke) (Q&A)
- » In the “share of trips” question which is basically measuring trips taken not in a single-occupancy vehicle - are the different modes being broken out? It can be hard to know which adjustments need to be tweaked if we don’t know that our overall number is 50%+ but that 90% of that is bike and very few people are opting into transit. (This is a rhetorical question, I don’t need an answer) (Q&A)
- » I wondered how the park & ride locations play into this as a resource for those coming in from farther away & then connecting via transit to final destination (Q&A)
- » Q: Proximity to transit is important, but won’t necessarily be used if they don’t feel safe or comfortable enough. Does “proximity” get coupled with variables of safety/comfort

that helps to indicate overall likelihood of conversion of travel mode? (Q&A)

- » A: Service quality is addressed in the plan, as is investing in transit waiting infrastructure, mobility hubs, comfortable waiting experience outside of vehicles. (Answered live)
- » Q: Also, do we have any seasonal adjustments on ridership? 36% -> 50% for non-motorized transit. (Q&A)
 - » A: We are not differentiating mode share by seasons; the metric being proposed is an overall average shift from auto trips to non-auto trips, regardless of season. (Answered live)
- » Q: Does the proposed strategy look at encouraging bike commuting from outside A2... particularly connecting to Pittsfield Twp significant work in this area. I-94 is a barrier to linking (Q&A)
 - » A: We will review the bike network recommendations with regard to access from outside the city. If you have specific suggestions, please let us know. (Answered live)
 - » The 2007 NTP recognizes all grade separate intersections with interstate design facilities as barriers to active transportation. Many of the corridors are listed in that plan with extra-jurisdictional corridor recommendations. Those recommendations were circulated to the county and adjacent communities



as part of the plan review process.
(Post-meeting response)

- » Inbound commuting is significant for workforce so connectivity at the A2 borders is important to consider (Q&A)
- » 50% non-motorized transit in winter is ambitious. In summer, not so much so? (Q&A)
- » Q: You may get to this in other sections, but what will be studied and/or supported regarding multi-modal travel (i.e. bringing a bike to a park and ride or using a bike-share or scooter for the “last mile”)? (Q&A)
 - » A: Improving access to transit is one of the key strategies in the plan, including development of mobility hubs that bring bikeshare and bike parking and bus stops together in the same location. (Answered live)
- » Buses need to be more comfortable, not hard seats, better shocks and simpler routes riders can understand. Drivers seem to be careful which is great. (Q&A)
 - » The Transportation Plan Update won't go into this type of detail but this is important feedback to share with the AAATA. (Post-meeting response)
- » Some sidewalk gaps are actually stairs. Few miles much money (Q&A)
 - » We are aware and investigating those where it is feasible to make changes consistent with the Americans with Disabilities Act (ADA). A program for eliminating stairs in the sidewalk

system is being considered as a part of the CIP process. (Post-meeting response)

- » I'm curious about how we're getting at equitable solutions, not just the users, but how we're prioritizing different neighborhoods and gaps in infrastructure. One proxy for getting at this prioritization is to note communities that are disproportionately young (under 5) or seniors, majority low-income, majority non-white. Washtenaw County and equity officer Alize Asberry-Payne have been working on forefronting equity, specifically racial equity, in their infrastructure plans and projects; it would be great if we could learn and take cues from their work. No response needed unless you want to follow up separately. Thank you. (Q&A)
 - » Several strategies address equity in a variety of ways, including reduced fare for low-income residents, prioritizing investments based on the equitable transportation model from the Fact Book. (Answered live)
 - » We will add a page to the plan that calls out these strategies to make them easier to identify. (Post-meeting response)
- » Q: Does the current 20 minute neighborhood share of 80% mean that 80% of residents can access fresh food within a 20 minute walk? (Q&A)
 - » A: The data we have is not detailed

enough to identify if the commercial establishments serve fresh food. (Answered live)

- » However, to clarify, the 20-minute neighborhood is defined as having land uses classified as a school, park, grocery, and retail within a 20-minute walk. However, the parcels classified as “grocery” may include stores such as mini-marts that don't serve fresh food. (Post-meeting response)
- » Another question (that can be rhetorical) - are we asking these questions only of Ann Arbor residents or are we asking them of people working in Ann Arbor too? The VMT number would change drastically, and possibly so would the strategies we're using (like more park-and-rides) if we're accounting effectively for commuters. (Q&A)
- » The vehicle miles traveled reduction metric is for all miles traveled within the city, including trips that originated outside the city. (Answered live)
- » I understand the pricing strategy but worry about the impact on the lower wage earners that are traveling from farther away, and the impact on the local retailers & restaurants. It could cause a more difficult time getting employees, etc. (Q&A)
 - » The pricing strategy includes a recommendation to modify the pricing for lower wage earners. (Answered live)
- » Q: I also wonder how much you've

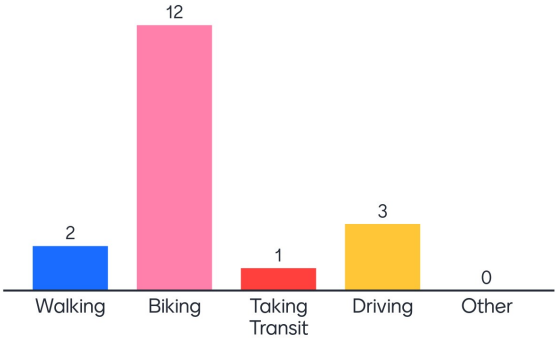
considered people coming into town for UM visits our tourists- that is also quite a large impact on the volume of traffic issues Ann Arbor sees. (Q&A)

- » All trips within Ann Arbor were considered and corridors were evaluated for those that experience more congestion.
- » Q: Does 20 minute include the ADA upgrades required for all travelers? (Q&A)
 - » A: The 20-minute neighborhood assessment includes the sidewalk network, but does not include an assessment of the compliance of curb ramps. The plan recommends updating the ADA Transition Plan to ensure curb ramps are planned to continue to work towards compliance. (Answered live)
- » RR Station in Fuller Park is a non starter. (Q&A)
- » Would love to see the old station used on Depot as do others, or upgrade existing station. (Q&A)

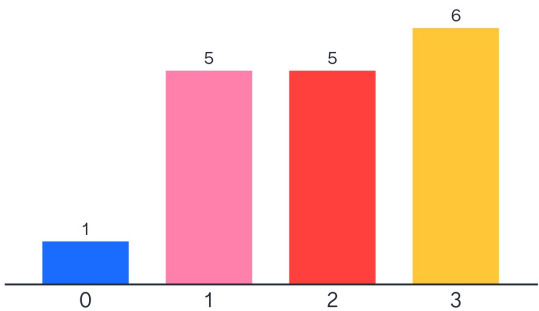
Results from Mentimeter polling are on the following pages.



What is your favorite way to get around?



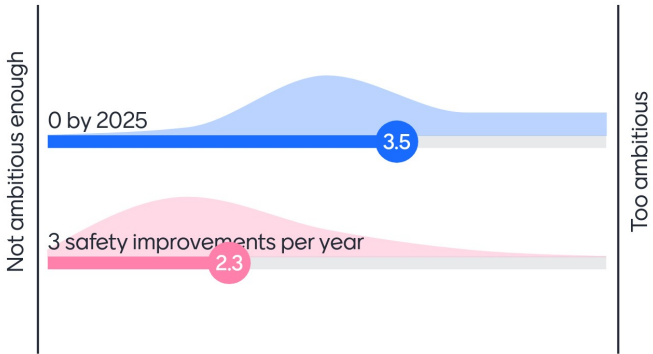
Before this meeting, I participated in XX committee meetings



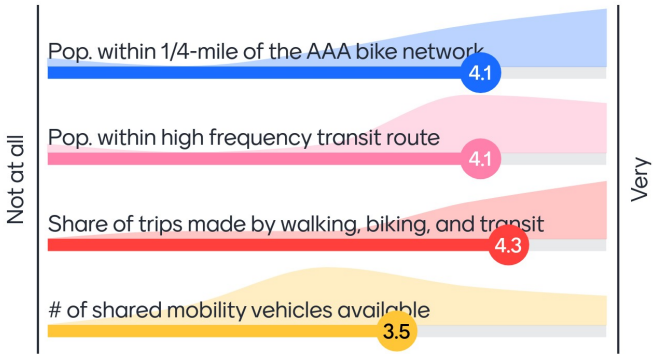
How effective is each SAFETY metric?



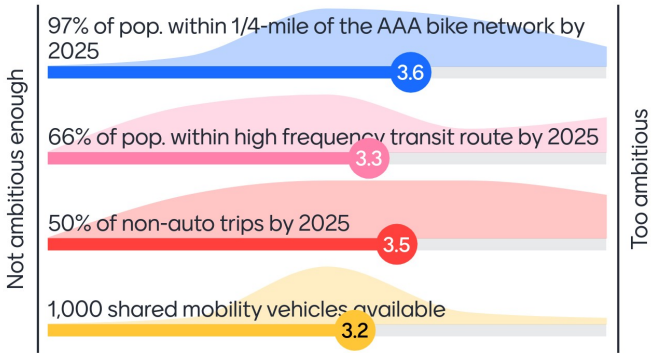
How realistic are the SAFETY targets?



How effective is each MOBILITY metric?

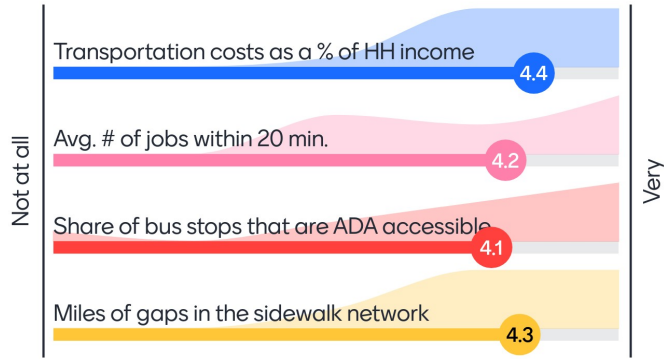


How realistic are the MOBILITY targets?



How effective is each ACCESSIBILITY metric?

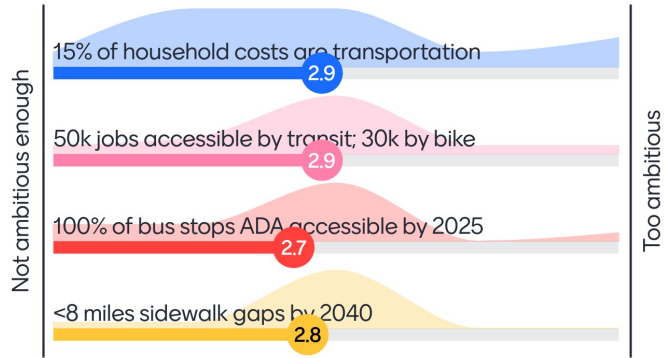
Mentimeter



14

How realistic are the ACCESSIBILITY targets?

Mentimeter



12

How effective is each HEALTHY/SUSTAINABLE metric?

Mentimeter



13

How realistic are the HEALTHY/SUSTAINABLE targets?

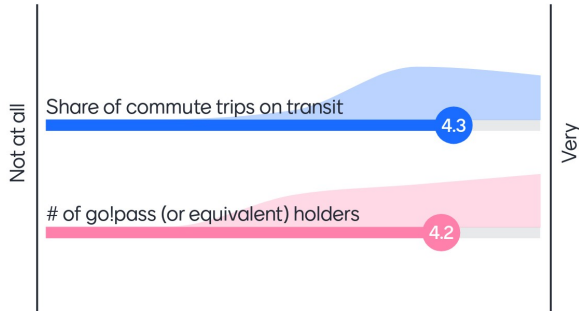
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13

How effective is each REGIONAL CONNECTIVITY metric?

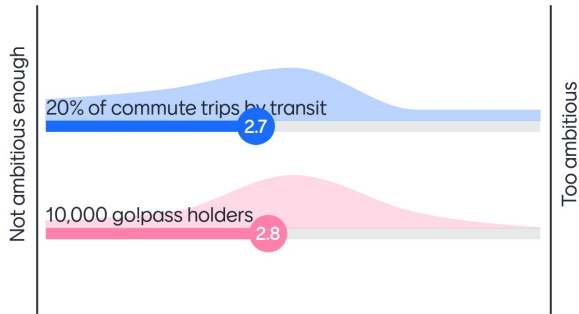
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12

How realistic are the REGIONAL CONNECTIVITY targets?

Mentimeter



12



Are there other metrics we should track?



Percent of children walking and biking to school.

How drastic the increase in ridership would be when people feel safe enough to return to normal.

Can you give feedback to the community when implementing strategies? For example, we've installed a curb extension, this is intended to satisfy X value and get us Y% closer to Vision Zero. It helps folks understand the both-and nature of strategies.

Average length of commute trip into A2 via transit or non-moto?... Could measure improvements in public transit such as impact of BRT or express routes into the city, and addition of bike lanes

What I meant by "avg. Length" is time it takes to commute into the city

How do the City's Transportation goals complement and support U transportation goals? Is there a way for communication platforms to cross-communicate these?

I'm trying to think about an effort / metric of getting people out of their cars. People are so committe to auto use and I want us to measure changes in that default behavior of "I have to go somewhere. Where's my helmet?" vs "where are the keys"?

Addressing Dangerous Behaviors - Is there any mention of regular speed data collection? This seems important for staff to assess the success of treatments.

Qualitative perception of public transportation. Are we improving the perception of public transit?Regional government cooperation (not sure how to measure - but how myopic are governments? Are we headed in the right direction?)

Are there other metrics we should track?



How can we get more students out of individual cars and walking/on buses? School congestion is a real problem, and we have so many solutions that parents are hesitant to take advantage of.



3. Focus Groups

A series of four focus groups were conducted for the City of Ann Arbor to gather public feedback to inform the Comprehensive Transportation Plan. The purpose of the sessions was to ask participants in-depth questions about comfort level in traveling around Ann Arbor, mobility challenges, ideas for the future, and how the City of Ann Arbor could shape the next transportation plan. Participants were recruited via a short survey that was promoted through the City of Ann Arbor’s social media channels, emails to residential groups, and emails to project stakeholders. Two sessions were held with the general population, one with seniors, and one with ethnic minorities. An additional focus group with college-aged students will be held in Fall 2019. Overall, participants in the sessions were very eager to provide their opinions and welcomed the opportunity to voice their visions for transportation.

Date	# Participants	Demographics
April 30, 2019	9	General Population, Mixed Ages
May 1, 2019	7	Seniors
May 2, 2019	5	Minority Populations
May 9, 2019	9	General Population, Mixed Ages

Focus Group Results

Results below reflect the comments of focus group participants. Individuals who travel in and around the City of Ann Arbor stated they use a variety of transportation modes including automobiles, buses (TheRide/AAATA, UM, Megabus), bikes, walking, trains, scooters, mopeds, motorcycles, bike share, car share (Zip Car, Maven), and on-demand services such as Lyft and Uber.

Comfort

Participants were comfortable with many different modes of transportation, with the comfort level somewhat dependent upon the purpose of the trip. For example, automobiles are preferred when people are transporting children or have packages/groceries with them. People preferred walking because it is comfortable, easy, and there is no waiting required, as compared to taking a bus. Biking is a preferred option when it is fast, because it is enjoyable, feels good, and the rider doesn’t need to worry about parking a vehicle. The bus is favored for those who live on a high traffic bus route and (as opposed to using an automobile) there is also no reason to worry about parking.

“Biking is enjoyable and it feels good”

Conversely, participants less comfortable biking cited safety concerns, pavement problems, fear of automobiles, lack of bike storage and covered parking for bikes. The bus system (TheRide/AAATA) is viewed as inconvenient by some due to infrequency and a lack of buses that run early or late enough. Route issues also came up numerous times for participants who were frustrated that the bus seems to focus on trips headed to the downtown Ann Arbor area. Participants felt that bus stops are too far away and do not feel safe. Also, some potential bus riders have determined that it is faster for them to bike or walk than to take the bus to their destination. Difficulties in automobile travel include having to find a place to park, poor infrastructure maintenance, and behaviors of aggressive/rude drivers.

“I hate commuting and people are so aggressive and rude”

Mobility Challenges

The difficulty of using a particular transportation mode is dependent on a variety of factors. Walking and biking becomes for participants difficult during inclement weather. Biking can be challenging for riders when bike lanes break and are not connected, and when interacting with automobiles. The

bus is difficult if someone’s schedule does not mesh with available times/routes. Some participants felt the bus was overwhelming and that it wasn’t easy to travel from one end of the city to another. Using the bus felt like it was a harder option. Automobiles are also becoming frustrating due to cost, lack of standardization at crosswalks, and commuter traffic.

Mobility Choices

As participants consider how they will travel in and around Ann Arbor, a variety of factors impact the mode they will choose. The time of day and amount of time available for the trip is a major factor. For example, if it is too late at night and a bus is not available the individual may need to use Uber or Lyft for their trip home. The infrequency of buses also causes people to not use that mode as often. Weather and safety issues also impact mode choice, especially when it comes to biking. Cost can be a factor when using an automobile as well as issues finding a parking space.

Participants were asked if they would prefer to use a different mode of transportation and what were the challenges to doing so. Many would like to walk and take the bus more often. Busing would be more attractive if it



was faster (than walking), ran more often, and if the routes were convenient. Biking would be preferred if there were more connected bike lanes and amenities for bikers such as place to lock their bike. Rail options would also be utilized by participants if there were more reliable connections to Chicago and a train to Detroit. Several participants would like to eliminate use of a personal vehicle if possible.

“Time of day is a big one. I almost never take Lyft and Uber, but they are necessary after the bus stops running”

Future Visioning

Focus group participants envisioned methods they might use in the future to get around the Ann Arbor area. A large portion of the focus group participants would make better use of TheRide/AAATA (or any bus-like option) if there were more frequency, dedicated bus lanes, faster service between Ann Arbor and Ypsilanti, and a unified bus system. Other methods people would use in the future include autonomous vehicles and micromobility solutions like scooters, bikes, etc. Commuter rail, regional transit, self-heated sidewalks, additional pedestrian infrastructure, and walkable retail were also suggested by participants.

When asked to name current transportation initiatives in the City of Ann Arbor, participants were quick to name a variety of plans, projects and construction in the city. These included ReImagine Washtenaw, The Connector,

bus rapid transit, border to border trail, train station, crosswalks, bicycle lane adjustments, and commuter rail.

Some participants were asked to state what they felt would make transportation better in Ann Arbor. Responses included reducing the number of vehicles on the road by encouraging people to use more public transportation, and focusing on commuters. Bikers would like to see a seamless approach to bike lanes and infrastructure. Participants voiced that buses should also run more often, and routes should not always centralize at Blake Transit Center. The multiple bus systems (TheRide and University of Michigan) could integrate more and offer more accessibility. Additional density, housing options, dedicated lanes for transit, and maintained roads would help improve Ann Arbor’s transportation network.

“Encourage people to use public transportation more and their cars less”

As Ann Arbor plans for future transportation needs, focus group participants would like to see a plan that considers housing and commercial developments with road capacity and integrates multimodal options including walking, biking, busing and other vehicles. Planning should also accommodate future growth and new modes (e.g. the next stage in light rail) as well as considering how to move away from dependency on automobiles. Additional elements to include are sustainability, accessibility, safety, and at a

basic level general maintenance of the infrastructure.

One Big Idea

Participants were asked to suggest a “big idea” for transportation for the City of Ann Arbor. Many responses centered on safety as an issue to address in Ann Arbor. Safety encompasses all modes of travel and all users/participants are looking for using a mode safely and having a safe network to use that mode.

Accessibility of transportation for all was also a concern, including accessibility for all types of users, and accessibility in terms of frequency and availability of transit options. Participants echoed their earlier sentiments about increased mass transit options like light rail and rapid transit. Participants also recommended zoning revisions to increase the density of housing and to incorporate mass transit. It was noted that integration of modes more seamlessly throughout the network would allow for more connectivity, accommodate growth, and reduce frustration.

“Design street infrastructure for Vision Zero, or people first”

As a written exercise, participants were asked to describe their biggest mobility challenge. Many challenges were associated with particular incidents in people’s lives such as infrequency of buses leading them to choose to walk rather than ride the bus.

“Eastbound Liberty at Zion Lutheran Church. It’s an example of bike infrastructure that has in effect returned to the earth and is not safe”

Or, bus routes do not travel to a specific destination (e.g. Costco) in a timely manner. Several people reported problems navigating commuter traffic. The lack of pedestrian friendliness was also cited due to lack of connectivity and inconsistent crosswalk markings. For some, their mobility barrier is related to emotional situations such as drivers shouting at someone in a bike lane, or (as a driver) having to deal with weather, unsafe roads and traffic. Specific roads and routes that people currently use also present mobility challenges. People named certain streets that they travel and issues they face including poor infrastructure (potholes on William Street), congestion (Huron Street near the YMCA), and lack of prioritization for pedestrians (intersection of Division, Madison, and Packard).

For the final written questions, participants were asked to look into the future 20 years and predict what transportation would look like in the City of Ann Arbor. Some respondents took an optimistic view, while others leaned more pessimistically with the caveat that their view was “unless something was done.” The positive view was that there would be more connectivity, more bus routes, rail travel to Detroit/Brighton, and an integrated approach to mobility. They also saw increased



use of new technologies/mode options like electric scooters, autonomous shuttles/self-driving buses, and software to provide more real-time data. People also suggested that some areas of downtown might be blocked off for pedestrian use only and commuters might drop off their cars outside of town. Planning would also take into account current spaces (such as unused space near Blake Transit Center) to accommodate transit.

“I won’t have to own a car. I can hop on an automated bus or car that I call up. I can get places safely, affordably and efficiently.”

On the negative side, several felt that autonomous vehicles were a foregone conclusion but that they would not necessarily alleviate congestion. Also, more jobs in the area would make roads worse and more sprawl occurs resulting in longer commutes. The final area that was explored during the focus group was the Vision Zero goal and how Ann Arbor might achieve that goal. One major way participants wanted to see Vision Zero implemented was through increased safety measures such as slowing down vehicles/traffic, preventing vehicle and pedestrian/cyclist crashes, and developing interventions where accidents occur.

“Focusing on building consensus. If people buy-in to your vision, then there needs to be communication widely about the goals and approach”

Future infrastructure design should be planned with pedestrians and cyclists in mind. This could include wider sidewalks, more bike lanes, and better crosswalks. Crosswalks came up several times with participants noting that the signage/lighting was confusing, people seemed unaware of the traffic laws, and felt that more education is needed.

Participants noted that additional planning by City of Ann Arbor staff will also help achieve Vision Zero. Participants suggested adding a staff member dedicated to this task. Also, they felt that the City Council seemed hostile to Vision Zero and should not micromanage projects.

For participants, one of the best ways to achieve Vision Zero in the future will be to incorporate an education and marketing campaign around safety issues. There needs to be community consensus around Vision Zero built through relationships and buy-in across commuters, businesses, residents, and the University of Michigan.

Below please find results from the focus group sessions organized by the questions developed for the discussion guide. Numbers in parenthesis indicate multiple responses. Responses are italicized and have been prepared from a recording of the focus group sessions.

Focus Group Responses

Let’s talk about the different types of transportation you use to get in and around Ann Arbor.

What are some of the methods you use?

Participants in all the focus group sessions use a variety of transportation options including automobiles, buses (TheRide/AAATA, UM, Megabus), bikes, walking, (pushing) strollers, trains, scooters, mopeds, motorcycles, bike share, car share (Zip Car, Maven), and on-demand services like Lyft and Uber.

Which of these are you most comfortable with, and why?

Walk

- » It depends on what I am doing. If it’s walkable, which is two miles or less I will walk.
- » But to get to the grocery store I drive.
- » I’ll walk if it’s close enough and the weather conditions (are good) and then I’d take the bus. I don’t drive. I would resort to Uber or Lyft if the bus is going to take too long or outside the county.
- » I like walking primarily, but I miss the subway.
- » It’s easier to walk when there are a lot of other pedestrians around.
- » I’m comfortable walking but it’s a time suck.
- » I’d rather walk than wait for a bus.

Bike

- » When I can’t bike and the weather isn’t suitable, then I drive.
- » With biking you get there faster.
- » Bicycle is my preference but it wouldn’t always be comfortable.
- » bike in some unsafe places where I would never have my children bike.
- » Biking is enjoyable and it feels good too.
- » Biking is the fastest way to get downtown without thinking about parking.

Bus

- » I really like taking the bus because you don’t have to hunt for a parking place. There are issues with the bus in terms of inconvenience.
- » I’m most comfortable with the bus but I am fortunate that I live off route 4, the busiest route.
- » We can get to the 4 (bus) easily, and there, even off-peak the service isn’t bad.

Auto

- » My weekday commute is car-based. On the weekend I try to walk. I would take the bus more often if it ran more often rather than every hour and a half.
- » With kids it’s easier to take a car. Parking isn’t an issue for me. I find it inexpensive.
- » Sometimes it’s a challenge, but it’s faster.



Which of these are you least comfortable with, and why?

Bike

- » I don't think it's safe to bicycle around Ann Arbor.
- » The roads are not safe (for bikes). The same potholes bother bicyclists. It needs to be better to support people being comfortable biking.
- » With biking there's a fear factor.
- » I've had bikes stolen in Ann Arbor. It was locked and it was stolen. I like the bike boxes, but we need more of them where people work, not just downtown.
- » I have had to be more strategic about (bike) routes because some roads are impassable.
- » Expanded covered bike parking, as much as is feasible.

Bus

- » The transit system only works if you are going downtown.
- » If you have to drive to get to the bus where do you leave your car? We are able to walk to two bus lines, which are convenient during the week and during the day when they run more frequently when we are headed in to town. But if we were going somewhere else, where do you leave your car without Ubering or Lyft?
- » Bus is horrendous. If you don't work 9 to 5 the bus doesn't work for you. There are people that can't get to work at 7 am or get home at 7 pm. I don't know who it's set up

- for.
- » I live outside of town and the closest stop bus stop is miles away.
 - » I generally feel safe on the buses, but if I have to wait at a bus stop at night, I'm not comfortable doing that in the dark.
 - » I have friends who live in Water Hill and they can't take a bus to the Medical Center because it doesn't work for them. They can't hit their shift.
 - » I am an infrequent bus rider because it's faster to ride my bike because you can go end to end.
 - » I don't have the time to take the bus.
 - » I went to a shopping mall on my bike and it wasn't convenient.

Auto

- » I mostly drive but I only park in university lots and am unfamiliar with parking elsewhere.
- » Driving and dealing with traffic. I have an old car.
- » I hate commuting, and people are so aggressive and rude.
- » The less I drive, the less I like it.
- » I feel safe in a car, but I don't ever want to park.
- » I'm afraid of driving in Ann Arbor. The potholes, getting rear-ended. I'm a bad driver.
- » I am least comfortable with Uber, Lyft and taxis. I don't like giving that much control over my destiny to someone I don't know if I should trust.
- » Walking downtown was not pleasant with

a stroller with cars cutting us off.

Which method do you find to be the most difficult, and why?

Walk

- » Weather is a big factor for biking and walking.
- » I stopped walking (in winter) it's horrible. If someone clears it there's a mound of snow and ice. I long for underground sidewalks.
- » There's a crosswalk at 4th Avenue and Beakes and I wonder if they (cars) will stop or should I put my foot out.
- » With my asthma I don't like to be inhaling the fumes especially if you are bicycling or walking. If things were more separated it would be ideal.

Bike

- » Biking in the cold weather and the snow.
- » There's a piecemeal approach to bike lanes.
- » We have bits and pieces of bike infrastructure opportunistically, but we haven't considered it in the context of routes or a connected network, thinking about how people get from point A to point B.
- » Jackson Road has a bike lane that becomes a car turn lane. There's a lack of education among cyclists and among drivers in who has the right of way. Cyclists can go on the road too. Cyclists have a whole database of close calls because you can call a cop and they just laugh. People just don't know what the rules are here.

- » The lack of infrastructure for biking including parking and protected bike lanes.
- » My complaint is pavement quality and roads that have painted bike lanes, riding in the bike lane is a recipe for a crash.

Bus

- » There is no bus stop nearby (our neighborhood). My daughter works downtown at a restaurant and it doesn't run early enough or late enough. Every day her schedule is different.
- » It's difficult to get from the north end of town to the south end of town on a bus without it taking a long time or having to make transfers. I never tried it because it seems overwhelming for time commitment.
- » Our bus system is very hub and spoke and if you live along one of the spokes it's not terrible. But if you don't, you have to make the trip planning, but if you have to get at a particular place at a particular time it's not going to happen.
- » I have to work harder to take the bus. I have to study the schedule and I have to plan out what I am going to do because I don't do it all the time.
- » There was a month when I didn't have and MCard and I find it ironic that people who are likely to have access to resources to pay for a bus ticket are people employed by U of M. I had to budget to take the bus.



Auto

- » Driving has become more difficult. There's a lot more cars. How we're marking stops is different everywhere. In this neighborhood there's five flashers and (it's different) in another neighborhood. There's no standardization. I'm confused.
- » When I drive I always have to think about where I am going to leave the car. I rent an overnight space from the city. The whole driving experience is inconvenient.
- » Car is difficult for me because I don't drive much because I am retired. The big thing here in the State of Michigan is the cost of the insurance premiums.
- » The driving culture here. People drive like (expletive) here. The lack of attention to speed limits, lights, school buses, crosswalks. I don't feel safe walking because there is so little margin of error.
- » As a driver it's difficult when cyclists venture out in bad weather and trying to navigate the road with them and being fearful of them wiping out.
- » There's a lack of uniformity in crosswalk signage, signaling and what the real or perceived rules are.
- » The volume of people that come in to town makes it a wild, wild, west scenario.

Which method is the least difficult, and why?

- » Walking is easiest.
- » Driving is the easiest because I know the area really well. But parking structures are full and it's challenging to find a spot.

What are some of the factors that impact your decisions about how to get around?

Time/Time of Day

- » How much time do I have to get there.
- » Time of day is a big one. I almost never take Lyft and Uber, but they are necessary after the bus stops running. I'm a grad student so I have odd hours.
- » The time you have to get somewhere. That was the downfall with The Link. It was so backed up in traffic all the time it was easier to walk.
- » It's time of day too. We live off of Washtenaw and I plan my life around 9 am to 3 pm.
- » Even to walk, you're taking your life into your own hands. It's a crush of cars. We avoid
- » Stadium and main on football weekends. There are roads and routes that are impossible now. Looking at new developments is terrifying. There's no plans for sidewalks, bike lanes.

Bus/Bus Schedule

- » The bus schedule, peak vs. off-peak. On-peak you might be more likely to take a bus and off-peak you might take an Uber.
- » If I didn't have a GoPass, having change for the bus.
- » I have a son who uses the buses all the time but they aren't available in the evening.
- » If you're downtown you're more likely to take the bus, but once you get to somewhere more spread out you're not as likely to walk. The built environment discourages it.

- » If I go out to happy hour after work there a limit to how late I can take the bus because they stop running.
- » If it's late at night I might go by bus but go home by Uber. If I'm at home and I just miss the bus I'll take an Uber. I'm not waiting 29 minutes.

Other

- » I commute different ways to work different days. I prefer to bike, but if it's raining I take the bus. I also have a 16-month old daughter and I'll drive and park. I'd prefer to be on the bus.
- » The intention. I take the bus every day to commute, but I wouldn't want to do that if I was grocery shopping.
- » I am much more likely to bike and less likely to drive if I am going by myself.
- » I am much more likely to drive all the time. My commute is a walk to my office, but if I have to go somewhere during the day and there's a time constraint I will drive.
- » I might use one form of transit to get somewhere and another one to get back. If enough time has passed or the weather has changed. If I walk and don't have time to get home.

The Weather

- » Weather is a factor with biking. It's limited to summer.
- » Parking issues.
- » What you have to do, if you have to carry things.
- » If I am taking the kids or not is a big factor.

- » If I have to get somewhere in a hurry I will grab an Uber or Lyft.
- » I wouldn't ride a bike, it scares me. I know too many people who have had accidents.
- » Years ago I didn't bike in the winter, but I have in recent years as long as there isn't snow and ice. Most days you can bike to get around.
- » Safety is a factor when you consider if there is a major road you have to cross.
- » Cost was a factor when I didn't have a car, the tradeoffs with the bus and Uber/Lyft.

Would you like to get around Ann Arbor in a different way? What is keeping you from doing so? What are other barriers/challenges?

Walk

- » I'd like to be able to walk to more things. I'd like more bus service. The only place to
- » walk more though is downtown and all the housing is expensive.

Bus

- » I take the bus to Central and North Campus. I live on the Old West Side and there is no direct bus line to campus. For me to take the bus I have to walk three blocks and then transfer at Blake so it's the same amount of time if I were to just walk. If there was a direct bus line I would take it more frequently.
- » An express bus to Ypsilanti from Ann Arbor. Or a trolley, something that goes a little faster than a bus.
- » I work at Domino's Farms and to get there I'd need to take a bus and then another



bus and walk and that's an hour, but it's a 15-minute drive. I would rather not drive.

Bike

- » I'd like to see dedicated bike lanes everywhere. Geographically it's a great city for biking, it's just not set up for it.
- » Bike routes need to connect with each other.
- » I like biking but I don't want to cross Washtenaw. There's no protected bike lanes or pedestrian lanes. Michigan is strange that there are no sidewalks in neighborhoods.
- » When you're driving it freaks you out because people are walking in the middle of the road.
- » I would like to be able to bike, but the roads don't have bike paths, the safety issue. If there's amenities when I'm going like a place to lock my bike and a shower.

Bus

- » It doesn't exist. There was this great plan partnering with the University called The
- » Connector, which ran down the spine of the city, which made so much sense to me.
- » But the city wanted to the university to pay a big chunk of it and they said no. The
- » same is for rail. We have spent so much money planning on how to make things happen and people are split between those who do want change and those who don't.
- » Buses if they went laterally instead of just downtown.

- » I would love it if we got to a point where I wouldn't need a car. Better, more frequent bus service and regional transit. You can hardly get anywhere past Ypsilanti.

Rail

- » Light rail, I want trolleys running around.
- » Commuter service on the Amtrak line would help take care of people on the east. A lot of people could be served by improved service.
- » A way to get to Detroit that doesn't take longer than driving. If there was a train.
- » You can take a train to get to Chicago if you only have to go at a certain time and have four hours to spend on it.

Other

- » Jetpacks
- » I live downtown, but there's not grocery store. I have to go to Stadium to shop. There
- » isn't any way to get there without a car. I'm not taking the bus.
- » How are we going to accommodate autonomous vehicles? It will be a nightmare while everything is happen at the same time.
- » It's a problem for running because sidewalks just end.
- » We have to make it more convenient to use other things (other than cars).
- » I work in Chelsea one day a week and if there was another way to get there.
- » It's really difficult to get out of Ann Arbor without a car. Any way to get out of Ann Arbor without a personal vehicle.

What are some of the ways people might get around Ann Arbor in the future?

Bus

- » The ARide is essential for people with disabilities.
- » Some kind of flexible shuttle, it could be autonomous. It would be more for neighborhoods that can't support a regular bus. It could be an on-demand shuttle.
- » However realistic it may be... the A2 Connector.
- » The Connector was an enormous amount of money.
- » I am terrified of The Connector because it's the one thing preventing the university from expanding. The blue bus is at capacity. We'll see another 5,000 students and we don't have housing for them.
- » There was a study connecting North Campus with Central campus and at the end they came up with the aerial (monorail) connection.
- » Dedicated bus lanes on Washtenaw.
- » Where is the space coming from (the dedicated bus lanes) on Washtenaw?
- » I think it's insanity that you have different bus systems running at the same time. You have the university and AAATA and the public schools. Why can't there just be a fabulous bus system that runs all the time?
- » TheRide started talking about BRT, something much faster and more reliable to connect Ann Arbor to Ypsilanti.
- » I know someone who comes from Macomb County. I'd be shocked if they use the park and ride lot and then the bus gets stuck in

the same traffic as you do.

Other

- » Autonomous cars.
- » Everything they are doing at MCity with driverless vehicles. You could have smaller vehicles.
- » Dockless bikes. More scooters.
- » Micromobility options, next step scooters on-street, or bikes with on-street parking.
- » Subway.
- » What I work with is people who are more frail and with memory loss. The gold card
- » with the cab is fabulous and we are lucky to have it, but the problem is it has a 5 to
- » 45 minute window and people can't get to doctor's appointments on time. So there is anxiety about waiting. The boundaries could be bigger. It doesn't go to places like the botanical gardens.
- » Ann Arbor to Detroit commuter rail.
- » Improve bikeability between the campuses. Right now there isn't a safe and efficient away to do it.
- » Better, safer bike lanes. More people would bike if it was clear, obvious and safe. The
- » more people you see bike and the infrastructure to bike they will do it.
- » Ann Arbor will continue to add jobs and people and the issue is how do you do it
- » without bringing it to a standstill? It's not just my commute, 1,000 commuters coming in on Washtenaw every day, some kind of mass transit would make it easier. The thinking I have seen in the city in how we are going to deal with our growth is



so narrow-minded. Ok, we're going to get mass transit but we can get Oakland County and Macomb County to vote for it so it will never happen unless it's just Washtenaw and Wayne County. So any vision of a train from Detroit to Ann Arbor is 50 years, so what do you do for 10 years? How does someone from Livonia get into mass transit into town. I don't feel safe biking on Washtenaw now.

- » The mass transit plan that continues to get voted down. I don't understand why it hasn't happened. I see that happening because of congestion.
- » Some type of regional transit authority to connect the broader Detroit suburbs to Ann Arbor, but also Chelsea and Dexter where people are commuting from. Bus lines or trams.
- » Seamless access to transportation. One card would get you on everything. That would be helpful.
- » To get to the hospital you have to get there and hour and a half in advance to your appointment and then deal with the stress of parking.
- » Self-heating sidewalks and bike lanes so you don't have to rely on the city.
- » More pedestrian infrastructure. There are places where there aren't sidewalks or the streets are too wide for the neighborhoods.
- » Enforced school zones and 20 points off your driver's license if you're caught speeding or passing a bus.
- » More housing on transit routes and we need a sufficient density of housing

downtown to support walkable retail like a grocery store.

- » Better connectivity from the gateways to the city. Some dedicated form of transit to get commuters into town. The park and ride lots aren't big enough.

Are you familiar with any current transportation initiatives in the City of Ann Arbor? Can you name any? (Please note that these responses are verbatim comments from participants.)

- » Reimagine Washtenaw (3)
- » Washtenaw Bus Rapid Transit
- » Ann Arbor or University of Michigan to Detroit bus
- » William Street bicycle lane (3)
- » Protected bike lanes on Ashley (3)
- » Dedicated bike lanes on Huron/more walkable (2)
- » Treeline trail (3)
- » Expanding border to border trail (3)
- » New train station (with parking) (3)
- » Commuter rail service
- » Theoretical plan for train from Brighton to here
- » Tunnels under train tracks to connect the border to border trail (3)
- » DDA changing on way streets (2)
- » North Main
- » Vision Zero (3)
- » Autonomous vehicles
- » Pedestrian crosswalks
- » Commuter Challenge
- » City council voting on road changes
- » Safe routes to school

- » Greenbelt
- » A2 fix it
- » Ann Arbor Connector
- » BRT project
- » In your opinion, what would make transportation better in Ann Arbor?
- » Vehicles/Use Cars Less
- » Fewer cars. More housing downtown so people don't have to drive and commute in and out of the city. If we are going to have fewer cars then we have to provide alternative modes of transportation that work.
- » Fewer cars on the road.
- » Encourage people to use public transportation more and their cars less.
- » Incentivize jobs where there are safe ways to get there other than a car. That means charging the real costs of parking rather than making it free for employees.
- » One thing I love about driving my car is I have an end to end. On my bike or on foot I don't have that. Pedestrians and bike should have an end to end.
- » Focusing on commuters, there has to be a way for thousands of commuters to transfer into town.

Bike/Walk

- » A protected network of bike lanes for end to end trips.
- » A consistent and coherent bike lane system.
- » The advantage of biking is no one is in your way.
- » E-bike sharing.

- » More investment in pedestrian and biking infrastructure.
- » Making walking and biking more seamless and complete.
- » Finish the crosswalk improvements and make them consistent.

Bus

- » The buses don't make eye contact and ask riders about holding buses.
- » The bus systems could be boosted by running it more often and running lines that don't all connect at BTC. You can't get from the 29 to the Medical Campus without going to the BTC. I think sometimes the city steps back and won't step on the University's turf.
- » We need more housing near transit, and more density so it's pleasant to walk around.
- » We have car-centric low density outside of town. North Campus has a lot of commuters but if you don't live near the bus network it's hard to get there. The bus system doesn't seem to acknowledge North Campus as an activity hub.
- » If we want people to not drive and take buses there need to be shelters. I'm not going to stand an hour and a half in the rain.
- » Lack of coordination between the agencies that manage the systems. There needs to be one transportation agency.
- » Better integration between the options. Last week I needed to get from Pittsfield village to Domino's Farms so I went to



TheRide and it told me to take a certain bus to the park and ride lot and then walk. I went to the UM bus system and did the same thing and it told me to take the same bus to the park and ride lot and then take a UM bus right to the door. AAATA seems to think it's the only game in town. And one payment system.

Other

- » There isn't a vision for how transportation works. I keep thinking of the book "Edge Cities." There's a lack of flow.
- » Can we listen to the people who live here? We aren't setting up barriers from people living here, but how do we welcome them and assimilate them? There's a significant brain trust so listen to the people in the neighborhoods. I'm glad they are doing focus groups.
- » Better door to door transportation that's affordable.
- » I have never lived in a city with worse signal lights. There are no waited signals.
- » Affordable dense housing is a prerequisite.
- » The city needs to become more dense.
- » Maintained roads, fewer potholes, cleaned leaves, puddles.
- » Lighting and other safety features.
- » Parking for cars and bikes. Dedicated lanes for everything, even taking away car areas. It's not uncommon to have place where you walk only.
- » Lanes dedicated to transit only.
- » Light rail.
- » Dedicated staff at the city whose job it is

to focus on transportation options, rather than just maintaining a system.

- » Transportation is changing in Ann Arbor and cities around the country. What should Ann Arbor focus on to plan as we plan for future transportation needs?
- » Ann Arbor needs to acknowledge that it's not a small city in the 60's anymore and it's going to be growing and the transportation network need to grow. We need to move forward with the acceptance that Ann Arbor will get bigger.

How do you intercept cars before they get downtown and then provide alternative transportation?

- » Move away from car dependency as much as possible.
- » Continue to build out electric vehicle infrastructure.
- » Transportation needs to be integrated with planning for development. The city needs to think about how it wants to grow and how transit integrates.
- » Plan for the "big picture" and road capacity that fits a development.
- » The city is always in a reactionary mode when it comes to land use.
- » I don't think the town knows who it wants to be. We can't keep putting things downtown. People want communities and neighborhoods. I hear people say "why is everything about downtown." You can barely walk downtown because there are so many people and the sidewalks are filled with cafes.

- » If we look at the system holistically by looking at infrastructure, users, enforcement of users, and education.
- » A plan that encompasses the entire city and where people actually go to help inform the routes. So if it's light rail it may not be on a rail because 10 years down the road things may change. Allow for the inevitable change.
- » We should think about our value statements. We want the community to work for a variety of people, not just people with kids or young people. We will have to make some tradeoffs. I think it's a mistake to think that people will get rid of their cars. More infrequently and that is coming out of a value statement about climate change rather than some high moral ground.
- » Sustainability from environmental concerns, but also cost. As a state we have built more roads than we can maintain.
- » Fairness. Who pays for what and who gets subsidized? Also socioeconomic groups.
- » Put different modes on equal footing. It could be mandatory to put in bike lanes.
- » Accessibility. It should be widely available to people and promoted as something for everyone in Ann Arbor to use.
- » An integrated plan. Packard now has bike lanes, but if we increase density why isn'tt here a density plan for Packard rather than somewhere where it (density) won't work.
- » Thinking of transportation as multimodal so people can go between modes. So mixing walking, biking, buses. Think of it as a system.

- » Filling sidewalk gaps.
- » Funding infrastructure. Can we get the street lights all working? Can we fix the roads?
- » Heaven forbid you have a cane, a walker or a wheelchair and you're trying to navigate the sidewalk or street.
- » Another big issue is the idea of safety and that's for pedestrians and bicyclists.
- » Focusing on safety as a guiding principal. Education too. People sitting in their car using their phones. There's a lot of safety issues.
- » Pedestrian safety and the crosswalks.
- » Accessibility for people. At the bus stops there's a sign, but no shelter or seats or pavement from the sidewalk to the street.
- » Safety. I see a lot of accidents because I live on Washtenaw. Enforcement, reengineering. There shouldn't be four lanes on Washtenaw. People are going to keep driving like idiots until they make them stop.
- » An all season plan.
- » Maintained dirt roads.
- » Strengthen our linkage to the towns and cities around us like Ypsilanti and Brighton.
- » Air quality. The overall air quality and people's exposure to things.
- » Planning for an aging population, accessibility on buses and other means.
- » If you could suggest one "big idea" for transportation for the City of Ann Arbor to focus on, what would it be?



Safety/Speed

- » Safety. If we could just think about moving people safely. Those people who are
- » biking, walking, and driving in the same space. I don't think people are clear about the crosswalk law. And good modes of mass transportation.
- » Sidewalks everywhere. One every city street.
- » Speed limits. I don't like biking on a road that's 35. I don't like driving on a road that's 35 because I can't see pedestrians.
- » A safe, connected network of non-motorized routes.
- » Design street infrastructure for Vision Zero, or people first. Slowing down car everywhere downtown, protected bike lanes and narrower streets.

Vision Zero

- » Vision Zero, but not just pedestrians. Safety for everyone, quality improvements across the board so a getting around time is enjoyable and safe.

Accessibility

- » Accessibility of public transportation. Physical, geographic, and financial accessibility.
- » The ability for people to get from one end of town to another quickly and safely in a timely manner for all populations with a reliable resource for travel planning.
- » A connected system of bus, cab, pedestrian, etc. to serve all age groups, physical abilities, and needs for timely transportation that

remains low cost, and no one is left out, and serve countywide residents.

- » More Mass Transit/Bus
- » Make the other mass transit options (other than driving a car) attractive so people want to do it. Make opting in easy. It's almost like you're being punished to take the bus, you're going to stand in the mud.
- » Fixed rail.
- » Light rail to the airport. (2)
- » The purple buses (The Link), I wonder about a ring road shuttle instead, Stadium to Jackson. A high speed shuttle round thing.
- » Ann Arbor Connector, other light rail for people at Plymouth Road/23 to downtown to Briarwood.
- » Integrated fare payment. (2)

Infrastructure/ Lane Use

- » Prioritize the basics first, surfaces, lighting, uniform cross walk law, signage, enforcement of speed limits. Fix the basics. Then prioritize safety first.
- » Revise zoning to allow more density outside of downtown, particularly on major transportation corridors. Look at getting rid of parking minimums and setback requirements to allow for mixed use neighborhoods outside of downtown. Use the tax revenue from that to increase transit revenue to allow more people to live without a car.
- » Denser land use for mass transit and weaning us from individual trips.
- » Every mode seamlessly connects.
- » Increase non-motorized road share to 50%

of trips.

- » Finishing the non-motorized network.
- » The most complete bike lane network in the state.
- » More accessible bike lanes and more bus lines with better schedules.

Other

- » Work with UM to fix transportation because there are too many people coming in to town with cars.
- » Coordinate and collaborate between the providers. Car restrictions in and around downtown and the campus area. Pedestrian walking malls. Washtenaw to State, big areas that are just walking, biking. You park around the perimeter.
- » Making biking attractive, helping people who want to bike, make it easier for them.
- » Crosswalk improvements.
- » Integrated transportation planning and development to accommodate future growth.
- » Integration of all available transportation options.
- » Connect people where they actually go. We have too much planning based on where we think people want to go.
- » Minimizing the number of cars on the road by increasing mass transit options and incentivizing options other than just you in your car.
- » Follow best practices based on proven and tried solutions in every aspect of transportation including education and enforcement.

- » Reduce frustration and anger. Everybody's angry and in a hurry. Frustrated about where they want to go.
- » Expand opportunity while preparing for climate change.

Take a moment and write down your biggest mobility challenge. In other words, as you travel in and around the City of Ann Arbor what is most difficult for you? Describe a specific incident.

- » Bus service doesn't run frequently enough off peak or traveling to and from somewhere that's not downtown. I find myself Ubering on nights and weekends.
- » If I drive to Costco from where I live it takes an hour and 10 minutes. If I take the bus, each leg requires a transfer so the trip takes two and a half hours. More buses, tighter coordination, more routes.
- » I like the bus and would use it more if it was more frequent, most routes force you to go downtown, not enough shelters, and the buses run late.
- » During the winter of 2017 when I arrived in town I walked from Stadium into campus and I beat the bus two days in a row through 2 feet of snow. Offering alternative options during the bad weather.
- » Struggles to get to place that are close but I need a car to get there. I'm off Dexter and the bowling alley is a half mile but there is no easy way to get there. There are no sidewalks to Plum Market.
- » Sidewalks in the winter.
- » Commuter race into town during the day



and out of town. Trying the get through the crush of traffic.

- » A clock set at 3:00pm, which is “on no.”
- » Peak hour congestion, which isn't a problem with biking.
- » Congestion and chaos. On Huron by the Y all the sudden all the traffic stops because one person want to turn. It affects everyone. I see at the 6th floor so I see people go the wrong way on one way streets and bikes go down the double yellow line.
- » Gridlock and getting stuck in game traffic.
- » The circle at Ellsworth. There are so many stupid things in Ann Arbor. Didn't anyone think this through?
- » My barrier is emotional. It's fear and anger. On my regular commute there's a bike lane, but to get there I have to cut across two lanes of traffic. I was biking on Packard and a guy behind me (in his car) screamed (expletive) at me. I had someone once yell at me “why are you using the bike lane?”
- » If I don't want to use a car the challenge is health and safety with unprotected bike lanes. The exposure to fumes, like walking alongside Washtenaw Avenue.
- » Lack of pedestrian friendliness. My bus stop is right across from a middle school and you'd think the intersection would be easy to navigate and I am convinced that the only reason I have not been hit by a car because I am 6 foot 5. And because I am not afraid of staring down a driver at the intersection.
- » Finding a non-auto means to get around while bringing along my child and personal

belongings.

- » When I was a teenager in town I used to ride my bike but I did get hit by a car and I did have my bike stolen.
- » Walking and trying to cross busy roads safely without having to walk a mile out of your way. To get from my house to Burns Park which is a quarter of a mile away there is no safe way.
- » When walking on Division and Madison and Packard all come together there are always cars parked in the crosswalk. It's not prioritized for pedestrians. For Vision Zero in Europe the idea is you could put on a blindfold and walk anywhere and not get killed.
- » Getting stuck in traffic. 8 months of Ann Arbor weather called winter. I haven't felt comfortable bicycling in the winter so I don't have a good alternative. I haven't found the bus to be helpful. The other challenge is finding a continuous route for my bike.
- » Unsafe sidewalks. People don't salt their sidewalks.
- » Road infrastructure and potholes when biking. Streets are not well lit here. So many times at night I have missed a turn. Roads aren't painted well. It makes biking and driving hard.
- » The block of Washington in from of the Y is more pothole than pavement. It's also very chaotic. People are getting picked up or dropped off and getting parking. I usually ride right down the middle of the road.
- » I have to bike defensively. On William there

are a lot of potholes and a lot on State. I have to be in the middle of the lane. That really (expletive) off drivers. I feel like I have to ride slow. The non-enforcement of the 3 ft. rule. People going fast on narrow roads.

- » No protected bike lane.
- » Eastbound Liberty at Zion Lutheran Church. It's an example of bike infrastructure that has in effect returned to the earth and is not safe. If there was a clear path people would use it to go to Kroger and get groceries. It's frustrating to see low hanging fruit.
- » Parking downtown.
- » There are some markets downtown, but I am always limited by how much I can carry and the weather.
- » Connectivity to Dexter. I know a senior aged women who needs to get to a job in Dexter but she can't count on the timing to get here there on time.
- » I own a car but I don't own a parking space so I have to deal with storing it.
- » Getting on an off the highways. The on ramps on 23, they were designed when the speed limit was 50. Also 23 to 94.
- » My car didn't have snow tires and I tried to figure out how to get to Jackson and I figured out I could take the train, but there was no way for me to get back.
- » Something that's pushed us to drive more is a 2nd grader.
- » It's hard transporting kids. We don't want them riding in the street.

Looking ahead 20 years, what does transportation look like in the City of Ann Arbor?

- » Ann Arbor is going to be larger. We can continue to expect people adopting more ways (of travel). We will still have automobile and our highways full. Personal automobiles are too cheap. We can work towards a future where there are more connections and people can walk and get groceries.
- » More services and more options, but also more congestion and incremental change. I don't think autonomous vehicles and car sharing will ease congestion, they will make it worse. Rail to Brighton. More bike usage.
- » The ring road idea and rail lines to 23 and 94 and 23 and 14. Parking outside of town and you get a bus to come in. Having the Blake Transit Center as a focal hub, but expanding that so there are more hubs.
- » Easily move people into and out of the city not using cars. The reality is that the pothole-ridden roads will drive people out of Ann Arbor because it's congested and business will fail because nobody is here to shop at them.
- » Successful implementation of some of the ideas the city has already talked about.
- » The Treeline connection to the boarder to border trail. Also railroads to Traverse City, Brighton and Detroit.
- » Same amount of traffic or less. Better coordination of systems using software, connectivity. More electric scooters and



bikes. Fixed transit.

- » An integrated multi-modal system for all of Southeastern Michigan.
- » Significant increase in infrastructure for autonomous vehicles. I have mixed feelings, but I think it's going to happen. Electric buses and shuttles. Dedicated bus rapid transit. More options to work remotely. Less need to commute and less need to live in economic centers like Ann Arbor.
- » Nodes connected by multiple modes for transportation to travel as a single person or as a group or community. Using technology to provide real-time information and to regulate traffic slows. Cars aren't going away but they can be more environmentally friendly and better utilized.
- » Protected bus lanes and bike lanes on major corridors even off peak. Links to non-downtown job centers. Mixed use and pedestrian friendly. Parking is available but cost is according to demand. Commuter rail to Brighton and Detroit and the airport.
- » Light rail to Ypsi, like the Connector to Stadium and Briarwood.
- » More bike lanes, but they are underutilized because there's more congestion. Maybe more electric vehicles but people are still mostly charging them at home. More micromobility options. More regional connection and train service to Detroit. In an ideal world we will have acted on a plan.
- » The future I hope for is that I'm still riding my bike around town but it's more pleasant

than today. Dedicated infrastructure that's maintained well. We have a regional transit plan and increased local service so I have ditched my car. The pessimistic view is more of today. Roads are worse, traffic congestion is worse. If the University keeps adding jobs then I absolutely see more traffic.

- » I won't have to own a car. I can hop on an automated bus or car that I call up. I can get places safely, affordably and efficiently. Also, enjoyable places to walk.
- » Lots of choices of dense neighborhoods with activities in walking distance. I imagine that everyone is retired or tenured professors
- » Cars are banned downtown, streets are dedicated to walking and bike lanes.
- » Increased housing density in the city resulting in increased biking and walking infrastructure. Car ownership is rare and parking structures are converted to other uses. Self-driving buses for regional transit.
- » Autonomous vehicles will be more common and driving us all crazy, fewer parking spaces and lots, more pick up and drop off. Pedestrians are given higher priority than cars.
- » A frequently running system at low cost that reaches everyone in the county. A door to door system for physically and memory challenged residents with trained drivers who can assist the riders and can travel anywhere in the county. Great and safe bike and pedestrian paths throughout the county.

- » I hope in 20 years we have a vehicle free downtown and University of Michigan campus. A transit service where you stop at the edge of town and catch a bus into town.
- » In-town multiple transit centers. In the city a totally connected city-wide bike system.
- » Turning downtown into a pedestrian mall. Small developments with drug stores and grocery stores.
- » Instead of whatever on the Y-Lot is an expanded Blake and next to it a light rail station. So saving space so you can do things later. I think we eventually need a train station, but until no one needs the service we should just save the space. No one has passed any money for the station but someday we will need a train station.
- » There's an opportunity to take the tech sector and put the transportation industry that's here together to be the focal laboratory for the transportation work we should be doing here.
- » Mass transit everywhere and lots more biking. Designing cities and urban spaces to encourage transit as something that's enjoyable. I get to enjoy this pleasant bike ride.
- » Make it pleasant.
- » Stadium Boulevard is now a linear park with amenities and fountains, cafés. The whole DDA zone pedestrianized but you can go in there at 5 miles an hour for deliveries/taxis. Covered scooters everywhere, driverless and they'll have a force field so you don't bump into anything

and to keep out the weather. Dense mix of housing/retail downtown. Bucolic suburbs with BRT outside the Greenbelt. This focus group meets once a month for drinks and plan our new transit.

- » A connected train and light rail like the train to Traverse City. More European. You can get from town to town by train and there's buses. And there are choices when you get there. Similarly Detroit.
- » Not a hassle. Carbon neutral. Not necessarily everyone has a car.
- » Light rail with lots of connections and bike lanes.
- » No personal cars and constant motion vehicles. Mass transit and no roads.
- » More self-driving cars, more congestion, more sprawl, longer commutes unless government builds more infrastructure.

What are some of the ways you would envision Ann Arbor reaching a goal of Vision Zero?

Safety/Speed

- » Slow down cars. It's the number one thing you can do to reduce fatalities. It can make a huge difference between 50 and 30 miles an hour.
- » Reducing speed limits and engineering roads for those speed limits.
- » Lowering speed limits on high-speed corridors.
- » Move away from personal vehicles. Automated vehicles, but there's less risk with a bus or train. Slow down traffic where available. Move to a broader approach



rather that level of service or vehicle throughput.

- » I love my car, but what causes deaths is personal automobiles. You have to look at ways to prevent cars from hitting people.
- » Where are injuries and deaths occurring and where might there be interventions?
- » Interventions to fix issues need to address the system things that are causing the accidents to occur.

Planning for Pedestrian/Cyclists

- » Infrastructure design going forward should be design not just for cars. Focused for pedestrians and cyclists too.
- » Better pedestrian crosswalks. I don't think they are effective.
- » Configure downtown streets and widen sidewalks. Main Street is very congested for walking.
- » Separate cars, bicycles, and pedestrians from the same space. That's another way to achieve Vision Zero is to not have people come into conflict with each other.

Education/Marketing of Vision Zero

- » Education and marketing campaigns for issues around safety.
- » Also include that we care about lives and the environment, but businesses are in it to make money. So that needs to be part of the PR campaign. What will this bring to the city?
- » Focusing on building consensus. If people buy-in to your vision, then there needs to be communication widely about the goals

and approach. If Vision Zero is the goal, then road diets and traffic calming and increasing non-motorized road share are ways to achieve that, right now those don't feel viable for people in town and more importantly those who commute in.

- » No one knows the bike rules or anything.
- » Transparency and communication is critical.
- » A cultural buy-in by Ann Arborites and expanding beyond to commuter. Something the University can really affect.

Crosswalks

- » Education and devices combined at crosswalks. When I went through driver training there was nothing about crosswalks.
- » When they did the big push a year ago for stopping for pedestrians I think that was effective. One the west side I see people stopping more often. On the north side of town there is a big Chinese immigrant population and a lot of people walk on
- » Plymouth and there are a lot of signs and flashy things. I like trying things like they did and then tweaking things.
- » I appreciate that they tried to educate at the crosswalks. The pedestrian law isn't some bizarre thing just for Ann Arbor.
- » What's problematic are the high, yellow lights (at crosswalks) as opposed to low red.
- » Red means stop.
- » They need to remove the driver judgments for crosswalks.

Planning

- » The city has to acknowledge that a lot things they have done aren't using best practices to reduce accidents. They need to change based on research and evidence.
- » Traffic flow design.
- » Keeping First and Ashley one way.
- » With every major reconstruction we need to look and see if we need that much asphalt. Can we slow the traffic? Similar to what was done on Miller with the islands designed to slow down traffics.
- » Downtown turning movements gets in the way of Vision Zero and right turns on red.
- » We have a City Council that is hostile to Vision Zero. They recently pass that all road diets have to be approved by council sending the message that they are not interested in this type of improvement to public safety.
- » Eliminate the veto power that some neighborhoods have over safety projects. It should just be mandatory that if there's road work there should be bump outs or road diets. Vision Zero should dictate that.
- » It's kind of a joke, there's a study for everything. Acting on data is more important.
- » There are things you can do while you are waiting for the data. The idea of road diets and Vision Zero, there are some legal limits. Some of the advocates for the motorists are saying that enforcement doesn't work. People freak out when you say road diet.
- » The City's hands are tied if Council members give pushback.

- » City Council should not micromanage every road and construction project. If there's Vision Zero then nobody should micromanage and nitpick.
- » There's got to be dedicated staff that this is what they do.
- » Include major employers in the discussion. Shopping centers need to understand that they need to dedicate some of their shopping space for transit goals.

Other

- » Stronger relationship between the University of Michigan and the city so they aren't siloed.
- » U of M throws its weight around a lot so there needs to be a way to work with them and have them work with the city.
- » Ann Arbor can appear antagonistic to the outside, especially those who work but don't live here. It's easy to say we don't want people to die, but if we don't take concrete steps to do it, then it's a sick joke.

Enforcement

- » Ann Arbor could get a reputation that the police are watching out.
- » We have a better bus system compared to other places in the state, but if we can tap into the population that is using the bus and engaging with them. I think about the party culture in the city.
- » When it's late at night there aren't good transit options if you have been out drinking.
- » Talk to high schoolers because they are



having parents drive them around.

- » Teach kids that riding buses gives you independence. They could let all high schoolers ride the buses for free





Appendix D includes various technical methodologies including:

Pedestrian Demand Index

Level of Traffic Stress

Safety Analysis

Equity Analysis

Uncontrolled Crosswalk Locations

Bike Intersections

Sidewalk Gaps

20 Minute Neighborhood

Analysis Methodologies

Pedestrian Demand Index

- » A pedestrian demand score was calculated for each street segment (using Ann Arbor centerlines shapefile). For population characteristics, data from the surrounding block group was spatially joined to the street segment. For other categories, instances within a .25 mile buffer of each street segment were counted.
 - » Population characteristics
 - » Population (2016 ACS) (10 points)
 - » Zero-vehicle households (2016 ACS) (8 points)
 - » Low-income households (2016 ACS) (8 points)
 - » Older adults (2016 ACS) (5 points)
 - » Children (2016 ACS) (5 points)
 - » Employment
 - » Total jobs (LEHD 2015) (10 points)
 - » Education
 - » Schools (City dataset) (10 points)
 - » Universities (City dataset) (10 points)
 - » Land use
 - » Parks + open spaces (City dataset) (3 points)
 - » Grocery stores (developed layer using Google Places) (3 points)
 - » Shopping + hotel + downtown parcels (selected relevant parcels from City land use dataset) (20 points)
 - » Public libraries (City dataset) (3 points)
 - » Transit
 - » AAATA Bus Stops (AAATA dataset 2018) (5 points)

Each factor was indexed to the prescribed point scale. All factors were then summed to determine final pedestrian demand score.

ANALYSIS METHODOLOGIES



All Ages and Abilities

- » Criteria for evaluating the existing and the potential for future All Ages and Abilities bike routes were developed based on Level of Traffic Stress (LTS) methodologies from Dr. Peter Furth at Northeastern University and NACTO.
- » In planning and designing bicycle facilities, discretion should be applied in the selection of facility type in order to meet the larger goal of creating a complete, all ages and abilities network. For instance, if a short segment of a low-stress route is cost-prohibitive (such as a bridge), a higher-stress facility that completes a connection may be preferable to an incomplete network or a facility upgrade that would require a long timeframe to complete.

Speed Limit	AADT <3,000	AADT 3,000 – 10,000	AADT >10,000
<= 25 mph	All facility types*	Bike Blvd/Route	Bike Blvd/Route
		Bike Lane	Bike Lane
		Buffered Bike Lane	Buffered Bike Lane
		Protected Bike Lane/ Off-Street Shared Use Path*	Protected Bike Lane/ Off-Street Shared Use Path*
30 mph		Bike Blvd/Route	Bike Blvd/Route
		Bike Lane	Bike Lane
		Buffered Bike Lane	Buffered Bike Lane
		Protected Bike Lane/ Off-Street Shared Use Path*	Protected Bike Lane/ Off-Street Shared Use Path*
35 mph		Bike Blvd/Route	Bike Blvd/Route
		Bike Lane	Bike Lane
		Buffered Bike Lane	Buffered Bike Lane
		Protected Bike Lane/ Off-Street Shared Use Path*	Protected Bike Lane/ Off-Street Shared Use Path*
>= 40 mph		Bike Blvd/Route	Bike Blvd/Route
		Bike Lane	Bike Lane
		Buffered Bike Lane	Buffered Bike Lane
		Protected Bike Lane/ Off-Street Shared Use Path*	Protected Bike Lane/ Off-Street Shared Use Path*

* Elevate to next highest LTS score if Off-Street Shared Use Path is less than 8-ft or adjacent to the road

Safety Analysis

All traffic crashes in Ann Arbor were analyzed ('2014_2018_crashes' layer package) between 2014 and 2018 from SEMCOG. All crashes on interstates and highways have been removed from the data.

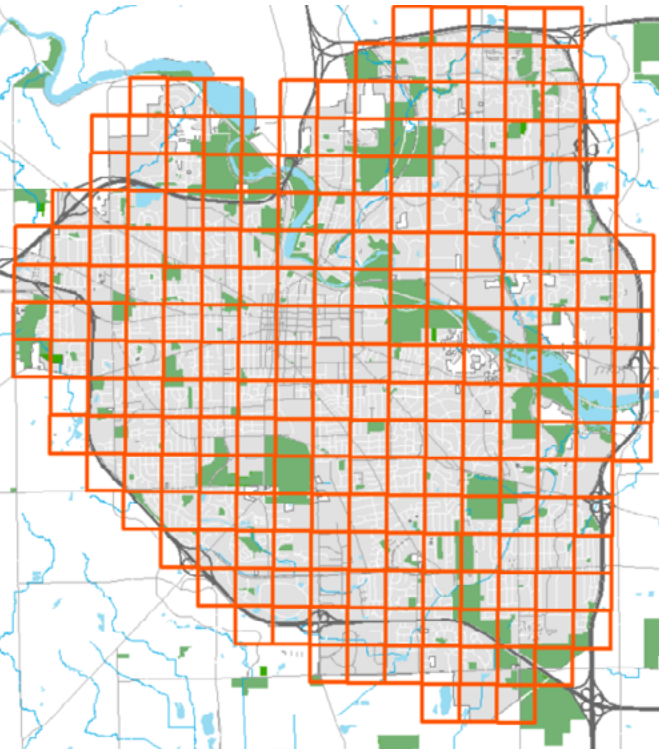
Focus intersections were established ('Focus_intersections' layer package) based off traffic crashes between 2014 and 2018. Crash scores for intersections were calculated using the formula below. Additional intersections with the highest number of crashes involving people walking/biking were also deemed focus intersections.
(property damage crashes*.5) + (fatalities*50) + (serious injuries*40) + (b injuries*5) + (c injuries)

Focus corridors were established ('Focus_corridors' layer package) based off traffic crashes between 2014 and 2018. Crash scores for corridors were calculated using the same formula as above. Additional corridors with the highest number of crashes involving people walking/biking were also deemed focus corridors.

Access to Jobs

- » The city was divided into a grid of 235 2,000 X 2,000 ft. cells (about a 10-minute walking distance) and the number of jobs within each cell (LEHD 2015) was calculated.
- » For driving and transit modes, Google Distance Matrix API was used to calculate travel time between every cell at 8am, 12pm, 5pm, and 9pm.

- » For walking, ArcGIS Network Analyst was used to calculate travel time between every cell using sidewalks/paths.
- » For biking, ArcGIS Network Analyst was used to calculate travel time between every cell using all streets (excluding interstate/highways) with an assumed biking speed of 10 mph. Travel time was calculated between every cell using only streets coded LTS 1 or 2, as well as streets where insufficient data was available to calculate the LTS score (the vast majority of which are low-stress residential streets).
- » For each cell and each mode, the number of jobs accessible within 20 minutes was calculated by totaling all of the jobs in the cells that could be reached in 20 minutes or less.



Equity Analysis

Census data is provided in the layer package titled 'Census_BlockGroups_Equity'. The layer provides various data by census block group. An equity score was calculated for each census block group using 2016 5-year ACS data and data from the Center for Neighborhood Technologies housing and transportation affordability index. The equity score can be found in the attribute column 'Eq_Score' within the 'Census_BlockGroups_Equity' layer.

Eight variables were indexed to derive the equity score (see table on the facing page):

- A. Dependent population
- B. Minority population
- C. Unemployment
- D. Renter population
- E. No vehicle households
- F. Household costs spent on transportation
- G. Educational attainment (less than high school education)
- H. Per capita income

For each variable, the census data was organized by quintile, or the distribution of values divided into five equal groups. For variables A through G, the following points were awarded by quintile:

- » The first quintile, or the lowest 20%, received 1 point.
- » The second quintile, 20% to 40%, received 2 points.
- » The third quintile, 40 to 60%, received 3 points.
- » The fourth quintile, 60% to 80%, received 4 points.

- » The fifth quintile, 80% to 100%, received 5 points.

For variable H ('per capita income'), the following points were awarded by quintile:

- » The first quintile, or the lowest 20%, received 5 points.
- » The second quintile, 20% to 40%, received 4 points.
- » The third quintile, 40 to 60%, received 3 points.
- » The fourth quintile, 60% to 80%, received 2 points.
- » The fifth quintile, 80% to 100%, received 1 point.

One challenge in identifying areas with high equity needs in Ann Arbor is that many traditional indicators used to identify priority populations can also overlap with college students. To negate this issue, two variables ('dependent population' and 'educational attainment') were weighted more heavily (150%) due to their inverse relationship with concentrations of college students.

For Ann Arbor's Comprehensive Transportation Plan, reducing transportation costs for low-income residents is a critical strategy to help preserve affordability in the city. With this priority in mind, the equity analysis includes an additional "bonus" category for census block groups that rank in the top 20% in terms of the % of household costs spent on transportation AND in the top 20% for lowest per capita incomes, in order

Eight variables and scoring process:

Variable	Points	Weight	Score
A % dependent population Percentage of the population under 18 or over 64 years of age	1 to 5	150%	Points x Weight
B % minority	1 to 5		Points
C % unemployed Percentage of the population under 18 or over 64 years of age	1 to 5		Points
D % renter	1 to 5		Points
E % no vehicle households	1 to 5		Points
F % of household costs spent on transportation Transportation costs percentage income for the regional typical household	1 to 5		Points
G Educational attainment Percentage of the population over the age of 25 who have less than a high school education	1 to 5	150%	Points x Weight
H Per capita income	1 to 5		Points
I Bonus Additional points provided if Variable F and Variable H are both in the 5th quintile	7		Points

Total Equity Score

Total points (including weights) for variables A - I

to further highlight the transportation equity needs within these communities. We initially assigned a value of five points to the "bonus" category, but increased this value to seven after testing several iterations.

The final equity score is a total of all points multiplied by the weighting. A larger score indicates the higher need for equity.

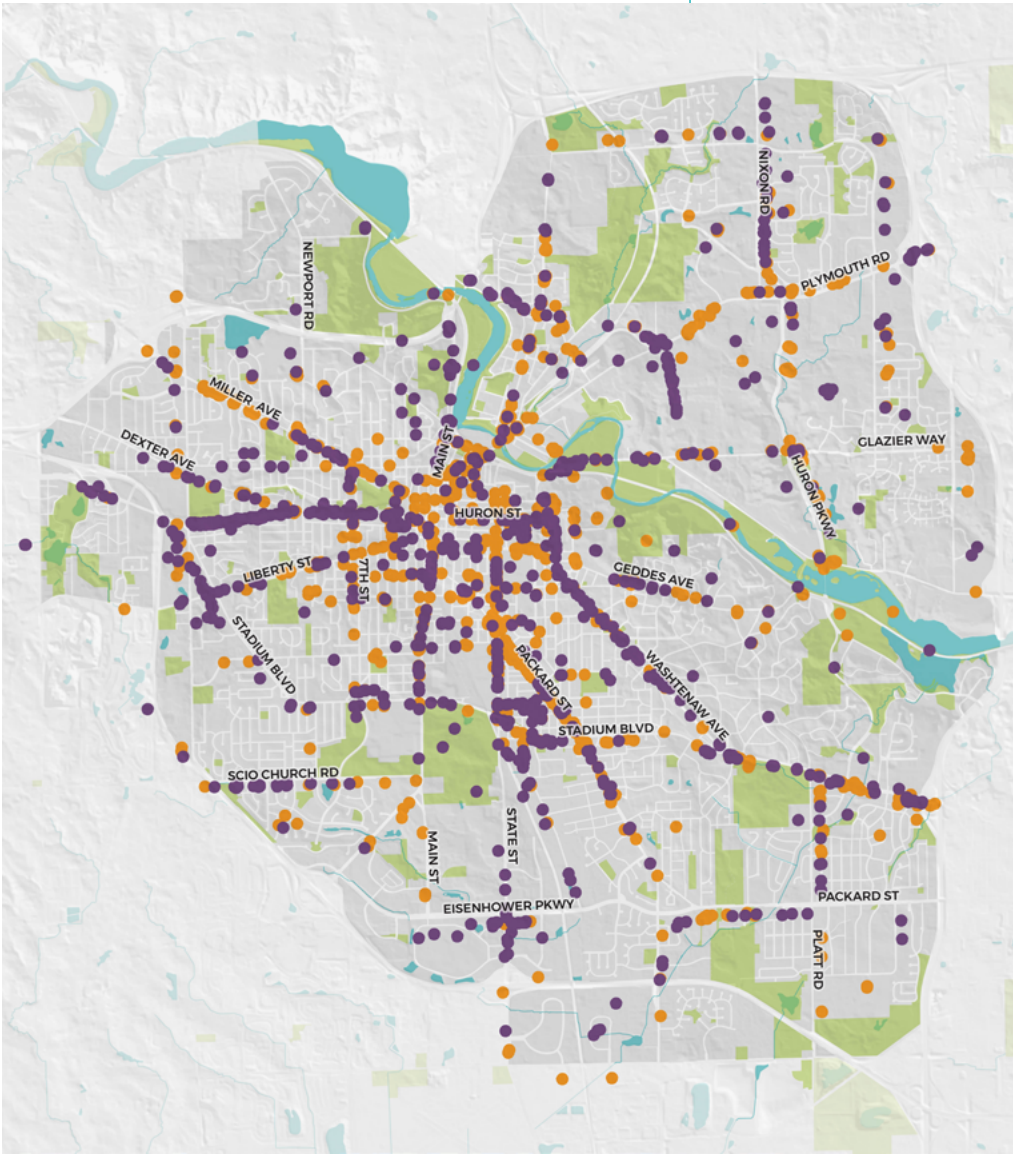


Uncontrolled Crosswalk Locations

There are locations around the city that require new uncontrolled crosswalks to increase convenience and safety for people walking.

The Pedestrian Crossing Survey included a map-based activity where respondents could identify places where new crosswalks are needed (see mapping activity below). A total of 954 people completed this Pedestrian Crossing Survey with 3,325 entries on the interactive map. Using this input, 26 priority

locations for new uncontrolled crosswalks were identified based on the location's distance from an existing crosswalk or signaled intersection and crash history.



- I would like to cross here
- I would like this crossing improved

Bike Intersections

Key intersections (11 high priority intersections and 68 secondary priority intersections) along the proposed all ages and abilities bike network were identified based on:

- 1. Safety issues, measured by:
 - » Number and severity of crashes involving people biking
 - » Data on perceived comfort, captured by surveys and other forms of community engagement
- 2. Existing and potential bike volumes:
 - » Bike counts
 - » Data on locations where people would like to bike, captured through surveys and other forms of community engagement

Sidewalk Gaps

The city's 2013 Non-Motorized Transportation Plan (an update from the 2007 Non-motorized Transportation Plan) identified 25 miles of sidewalk gaps that were crucial to fill in the near-term and to-date 15 miles of these gaps have been addressed. In addition to completing the remaining 10 miles of near-term sidewalk gaps, there are an additional 18 miles of sidewalk gaps on major streets around the city.

The city uses a variety of criteria, including proximity to schools, transit, and affordable housing, to identify the highest priority sidewalk gaps the city should work to address

first. Ann Arbor has been systematically installing new sidewalks based on the prioritization results from the 2013 Non-Motorized Transportation Plan and should begin prioritizing the remaining gaps along major streets.

20 Minute Neighborhood

A 20-minute neighborhood is a place where residents can meet most of their daily, non-work needs (like shopping, groceries, parks, and schools) within a safe, convenient 20-minute walk.

The 20-minute neighborhood analysis looked at grocery stores, parks, retail, and schools. Shapefiles containing the destinations for each of the location needs were created. The park layer excluded the Ann Arbor Golf & Outing Club and University of Michigan Golf Course.

Census blocks accessibility were compared to to the destination points, observing census blocks that have access to a park, school, grocery store, and retail parcel within a 20-minute walk versus those that don't.



APPENDIX D ADDENDUM:

2024 Safety Analysis

- All traffic crashes in Ann Arbor were analyzed between 2019-2023 from Michigan Traffic Crash Facts.
- All crashes on interstates and highways have been removed from the data.
- Focus intersections were established based off traffic crashes between 2019-2023.
- Crash scores for intersections were calculated using the formula below. Additional intersections with the highest number of crashes involving people walking/biking were also deemed focus intersections. (Fatalities and AAPD Callout crashes*50) + (Serious Injuries*30) + (B injuries*10) + (C injuries*1) + (Property Damage Crashes*.5)
- Focus corridors were established based off traffic crashes between 2019-2023. Crash scores for corridors were calculated using the same formula as above.
- Additional corridors with the highest number of crashes involving people walking/biking were also deemed focus corridors.

Notes on Methodology

- Corridors were re-segmented in order to align with constructability and adjacent land uses
- Corridors/Intersections removed as part of manual changes
 - Moore corridor
 - East Medical Center corridor
 - Washtenaw at Wilmot intersection
 - Washtenaw at Forest intersection